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NOISE AND VIBRATION IN MINES
RESEARCH REPORTS 1972-1986

edited by G. Knight ***traduit par N.R Billette***

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Canada Centre for Mineral and Energy Technology
Centre canadien de la technologie des minéraux et de l'énergie

NOISE AND VIBRATION IN MINES RESEARCH REPORTS: 1972-1986. VOLUME 4—Part A—MILL AND SURFACE PLANT NOISE SURVEYS

BRUIT ET VIBRATION DANS MINES RAPPORTS DE RECHERCHE Partie A—RELEVÉS DE BRUITS D'USINES ET ATELIER

Canadian Mine Technology Laboratory Laboratoire canadien de technologie minière

CANADIAN MINE TECHNOLOGY LABORATORY LABORATOIRE CANADIEN DE TECHNOLOGIE MINIÈRE

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LABORATOIRES DE RECHERCHE MINIÈRE
RAPPORT DE DIVISION LRM 88–119A (R)

FOREWORD

The compendium of CANMET reports on noise measurement equipment, noise assessments in mines and hearing protection assessments is a tribute to the dedication, hard work and professional expertise of Mr Savich in his field of research specialization. The research contained within the reports was accomplished by Mr. Savich or under his direction in the relatively brief period of 1972 to 1986 while working as a research scientist at the Elliot Lake Laboratory.

It is hoped that this compendium of reports on research carried out while at CANMET will be useful to those interested in finding solutions to the problems caused by miner exposure to noise and vibration.

J.E. Udd
Director
Mining Research Laboratories

AVANT-PROPOS

Le recueil de rapports de CANMET sur les instruments de mesure du bruit, les évaluations du bruit dans les mines et la protection de l'ouïe constitue un hommage à l'assiduité, le professionnalisme et l'expertise de M. Savich dans son champ de spécialisation en recherche. La recherche relatée dans ces divers rapports fut accomplie par M. Savich lui-même, ou sous sa direction, au cours de la courte période allant de 1972 à 1986, alors qu'il oeuvrait en tant que chercheur scientifique au laboratoire d'Elliot Lake.

Les Laboratoires de recherche minière de CANMET espèrent que ce recueil de rapports de recherche serviront à tous les intervenants du milieu intéressés aux problèmes reliés à l'exposition des mineurs au bruit et aux vibrations.

Directeur
Laboratoires de recherche minière
J.E. Udd

NOISE AND VIBRATION IN MINES — RESEARCH REPORTS: CANMET/ MINING RESEARCH LABORATORIES, 1972-1986.

Reprinted in 6 Volumes

Edited by

G. Knight*

French translations by

N.R. Billette*

ABSTRACT

This compendium is a reprint of all the reports on noise and vibration research undertaken by CANMET. Most of the studies were undertaken in cooperation with mines across Canada, mainly mines located in Ontario and on several occasions with the Mines Accident Prevention Association of Ontario. Two studies were carried out through the awarding of contracts.

The compendium is in 6 volumes, two of which are in parts, as follows;

1. Vol. 1–Glossary, Introduction, and Measurement Methods.
2. Vol. 2–Hearing Protection—Ear Muffs.
3. Vol. 3–Mine Noise Surveys–Part A.
4. Vol. 3–Mine Noise Surveys–Part B.
5. Vol. 3–Mine Noise Surveys–Part C.
6. Vol. 4–Mill and Surface Plant Noise Surveys–Part A.
7. Vol. 4–Mill and Surface Plant Noise Surveys–Part B.
8. Vol. 5–Noise Abatement Studies.
9. Vol. 6–Vibration Studies and General(includes unclassified)

Within each volume or section the reports are listed chronologically. The glossary has been removed from 3 of the reports and listed separately at the front. The introduction describes the main features of the contained studies in each volume.

KEYWORDS: Noise, vibration, mine surveys, noise control,
hearing protection, bibliography.

*Research Scientists, Canadian Mine Technology Laboratory, CANMET,
Energy, Mines and Resources Canada, Ottawa, Ontario.

BRUIT ET VIBRATION DANS LES MINES - RAPPORTS DE RECHERCHE: LABORATOIRES DE RECHERCHE MINIÈRE DU CANMET, 1972-1986.

Réimpression (en anglais) dans 6 Volumes

édité par G. Knight*

traduit par N.R. Billette*

RÉSUMÉ

Ce recueil constitue une réimpression de tous les rapports concernant la recherche sur le bruit et les vibrations exécutée à CANMET. La plupart des travaux ont été entrepris en collaboration avec des mines canadiennes, principalement avec des mines situées en Ontario et, en de nombreuses occasions, avec l'assistance de l'Association de prévention des accidents miniers en Ontario (MAPAO). Deux recherches furent réalisées en tant que contrats.

Le recueil comprend 6 volumes, dont deux comprenant plus d'une partie, répartis comme ceci:

1. Vol. 1–Glossaire, introduction et techniques de mesure.
2. Vol. 2–Protection de l'ouïe - protecteurs supra-auriculaires.
3. Vol. 3–Relevés de bruits de mines–partie A.
4. Vol. 3–Relevés de bruits de mines–partie B.
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7. Vol. 4–Relevés de bruits d'usines et d'ateliers de surface–partie B.
8. Vol. 5–Études de réduction du bruit.
9. Vol. 6–Études des vibrations et divers.

Dans chaque volume ou section, les rapports sont classés en ordre chronologique. Le glossaire (en anglais seulement) provient de l'amalgamation de termes contenus dans trois des rapports et a été regroupé séparément au début. L'introduction décrit les principaux éléments des travaux contenus dans chaque volume.

MOTS-CLÉS: bruit, vibration, relevé en mine, contrôle du bruit, protection auriculaire, bibliographie.

* Chercheurs scientifiques, Laboratoire canadien de technologie minière, CANMET, Énergie, Mines et Ressources Canada, Ottawa, Ontario.

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INTRODUCTION

This research was undertaken because noise-induced hearing loss is a substantial problem in the mining industry and because vibration-induced damage occurs to blood capillaries in the hands of miners, particularly drillers. Noise-induced hearing loss generally occurs over a long period of time. Because humans are adaptable and tend to compensate for the gradual loss, the impairment goes unrecognized for a long time. Exposure to very loud noises, such as explosions, can give rise to immediate and disabling damage to the hearing system.

Hearing impairment affects both employees and employers. Compensation payments are becoming substantial. The hearing loss can only be detected in the early stages by frequent checks of hearing acuity and this is now required for miners in most Canadian jurisdictions.

Noise is measured as the peak to trough pressure difference in the vibration waves in air. The results are expressed in relative terms to the hearing sensitivity of (young adult) humans in good health using a logarithmic scale to the base 10. Thus, an increase of one Bel is equivalent to a ten times stronger noise level. However, the Bel is a large unit and it is more convenient to use a unit ten times smaller, the decibel. Hearing acuity is frequency dependent. It peaks at a frequency of about 1 000 Hertz (cycles per second) and falls off to the extreme limits, roughly 20 and 20 000 Hz. Sound measurement equipment is much less frequency dependent and a weighting factor is used to relate it to human hearing. The "A"-scale is used in hearing loss programs generally. Thus, the weighted noise level in decibels is usually abbreviated as dBA. Hearing loss is believed to occur when exposure is above a threshold level, 85 dBA and 90 dBA have been specified in various jurisdictions. The hearing loss is proportional to the height of the noise excursion and its duration. Three factors are in use for equating the potential hearing loss to the noise level:

1. A doubling every 3 dBA–The equal energy principle, used in many hearing loss control recommendations.
2. A doubling every 4 dBA–used in one or more recommendations.
3. A doubling every 5 dBA–used in the principal USA legislation: the Occupational Safety and Health Act (OSHA).

Canadian regulations are set provincially and federally: either factor 1 or 3 is used.

In addition to potential hearing losses high noise levels lead to problems in safety, fatigue and communication.

Most of the noise studies have been directed at surveys of noise in mines and the efficacy of hearing protection measures. The mine surveys have shown that many miners are exposed to noise levels above the threshhold for potential hearing loss and that immediate hearing protection is required as well as an effort to reduce the noise level of mining machinery.

This compendium is a reprint of all the reports on noise and vibration research undertaken by CANMET. Most of the studies were undertaken in cooperation with mines across Canada, mainly mines located in Ontario and, on several occasions, with the Mines Accident Prevention Association of Ontario. Two studies were carried out through the awarding of contracts. A few of the early reports by Miron Savich were based on his MSc. thesis work undertaken at the Institute of Mineral Research of McGill University, situated at Mont St. Hilaire, Quebec.

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9. Vol. 6–Vibration Studies and General(includes unclassified)

Within each volume or section the reports are listed chronologically. The glossary has been removed from 3 of the reports and amalgamated. It is presented separately at the front, following the contents table.

The noise measurement methods used are described in some reports in the first volume as well as being described in many of the other reports on surveys etc.. Five main classes of noise measurement techniques have been used in the noise surveys. These are:

1. Hand-held meters with "A"-scale weighting and slow response time averaging over a short period of time, a second or less, with manual recording. This was used in the earlier surveys and occasionally later. A graphical method of determining the average noise level for the survey is given in report 75–71.
2. The hand-held sound level meter was also used in the peak measurement mode for studies of impulse, or short duration, noise as in report 84–83.

3. A shift length recording system in which the average noise level over a period, such as a minute, is stored on a memory bank and read out later. In the system used, the results were read at the end of the shift and analysed using a computer program as described in report 78–62.

4. The noise dosimeter averages noise level over a short period of time and, if it exceeds the threshhold, adds it up using an appropriate factor to give the noise level as a ratio of the exceedance to permissible for the shift. The instrument usually has an indicator for showing whether the noise level has exceeded the ceiling level of 115dBA promulgated in the OSHA regulations (presumably intended for unprotected ears). This instrument has been used in many surveys and tests on hearing protectors. One unit was described and tested in report 76–83.

5. Frequency analysis sound level meter. This determines the sound level in each band of frequency of significance, usually one third octave wide. The equipment is desirable because the attenuation of noise by any barrier is frequency dependent and because the frequency of an offensive sound may be very helpful in determining its source. Ear muffs are sound attenuators and therefore frequency dependent, they are not as good attenuators at low frequencies as at high frequencies.

Ear muffs (hearing protectors) were shown to be highly efficient in laboratory tests providing attenuations of 31 to 44 dBA at frequencies of 1 000 Hz and above. Safety glass-frames passing under the seal of the ear muff, however, were found to reduce attenuations to 25 to 34 dBA. The wearing of safety glasses is obligatory in most working places in the mining industry. Field studies in mines showed that the effective protection factors for ear muffs could be less than 10 dBA. The surveys carried out at Falconbridge Mines Ltd., Reports 86–58, 86–59, 86–60, 86–61 with a final summary in 86–88 illustrate the value of such studies. The attenuations of ear muffs found in mines are shown in Figure 1, where the measured attenuation(OSHA basis) in dBA is shown plotted against the mean sound level in dBA (variously described in the reports as $L_{eq}(60s)$; L_{OSHA} or $L_{Avg.}$). The required attenuation line is drawn assuming that the average sound levels persist for a full 8 hour shift and that ear plugs are not worn. This figure suggests that about half of the population examined were not protected to the extent required. However, neither of these assumptions are true and it is probable that substantially more than the half of the population was protected to the extent required. The major reason for the poor performance of ear muffs in practise was found to be poor fitting, the spring clamping force was often inadequate, particularly on small headed individuals. Emphasis was placed on the measurement and control of clamping force and the need to fit earmuff supports to head size. On the basis of these surveys recommendations were made to improve control of hearing protection programs.

The noise surveys are a useful repository of information. The detailed surveys, using the data logging technique, which form the major part of volumes 3 and 4, provide invaluable information to those planning noise control programs in many mining operations. Nearly 700 man-days were logged in the detailed surveys. It could be seen that the distribution of noise exposure during the shift varies from nearly constant to highly variable. In the mines 262 shifts out of the 432 recorded were worked at sound levels above permissible exposure. The highest values were about 40 times greater requiring hearing protection of at least 28 dBA attenuation. This would be even higher if the proposed OSHA standards instead of the existing rules (at the time the reports were written) were used as the basis for assessment. In the mills and surface plants only 13 out of the 250 shifts recorded were worked at sound levels above permissible exposure. The highest value required about 10 dBA attenuation in the hearing protection.

Noise control studies have been carried out with respect to light and medium weight percussion rockdrills, diamond drills and diesel engine exhaust systems. The diamond drill studies point out the need for a thorough investigation of all the noise sources, four major sources have been identified. Reduction of only one source would, as a result, produce almost no effect on sound level, a reduction of about 1 dBA. It may, however, modify the sound quality significantly.

The high noise levels measured in mining emphasize the requirement for substantial work to control noise on mining machinery. It is likely that eventually it will be desirable not to expose men to sound levels over 85 dBA and that the necessity for hearing protection will be considered an undesirable working condition to be eliminated.

The contract study on vibration found that stopers and jackleg drills subjected miner's hands to vibration levels sufficient to induce vibration white finger disease in periods of one to four years in over half the population. It was also shown that vibration isolators could be effective in substantially reducing vibration transmission to hands and proposed that vibration isolation handles should be developed and used on percussion drills. Some sites where whole-body exposure to vibration exceeded guidelines were found in surface plant and mills. Underground diesel powered vehicles were not examined.

The report 73–17 in the miscellaneous section in volume 6 is a good exposition of the noise and vibration problems in mines. The topics covered include noise and vibration measurement; noise and vibration exposure standards; and noise and vibration sources; as well as control methods.

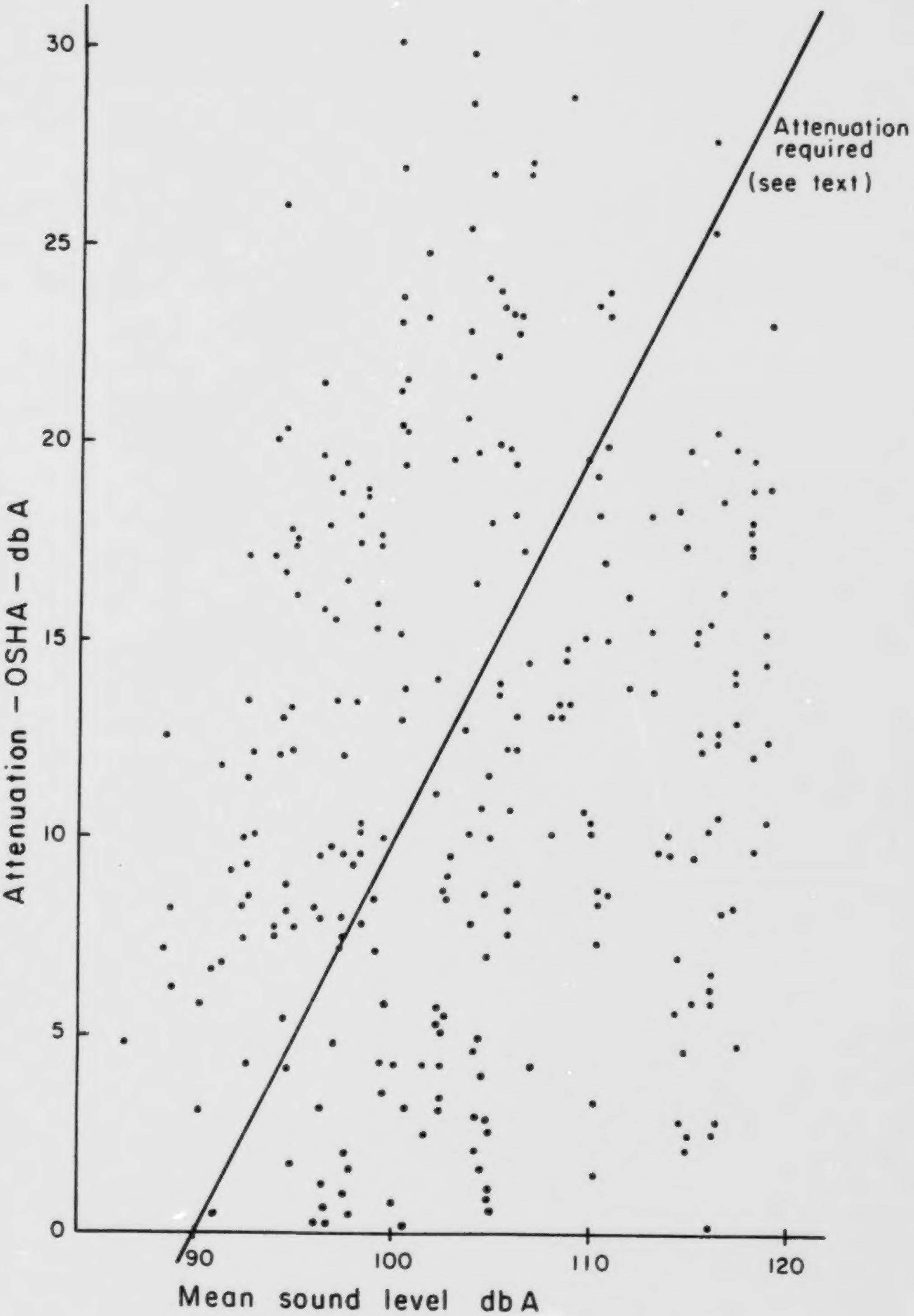

Fig. 1–The attenuation of ear muffs measured in use in mines.

Fig. 1–L'atténuation des protecteurs supra-auriculaires en usage dans le mines

It should be appreciated that many of the reports cover more than one topic and that they have not been cross-referenced. They are entered in the category corresponding to the major aspect studied.

The report pages have not been renumbered. To assist in locating each report red coloured pages are used to separate them. Each of these has page and report numbers in the top right hand corner and the full title and description of the report and its publication details, if other than a divisional report.

The reports are in their original language, usually english. The abstracts have been translated into french and are given at the front of each report.

ACKNOWLEDGEMENTS

The editor wishes to thank his colleagues in the Mining Research Laboratories for assistance in gathering and compiling these reports.

INTRODUCTION

Ces travaux de recherche ont été entrepris parce que la perte auditive due au bruit constitue un problème important dans l'industrie minière, ainsi qu'à cause des dommages aux capillaires sanguins induits par vibration aux mains des mineurs, et plus particulièrement des foreurs. La perte auditive due au bruit découle d'une exposition prolongée. Puisque les humains s'adaptent facilement et tendent à compenser la perte graduelle, la détérioration passe longtemps inaperçue. Toutefois, l'exposition à de très grands bruits, une explosion par exemple, peut entraîner un dommage immédiat incapacitant du système auditif.

La perte auditive affecte tant l'employeur que l'employé. Les paiements compensateurs sont devenus substantiels. Les premiers signes de dégradation de l'ouïe ne sont reconnus qu'au prix de multiples vérifications de l'acuité auditive, ce qui est maintenant exigé dans la plupart des juridictions canadiennes concernant les mineurs.

Le bruit est mesuré comme différence entre le sommet et le creux des ondes vibratoires dans l'air. Les résultats sont exprimés en termes relatifs à la sensitivité auditive d'un humain (jeune adulte) en bonne santé, en utilisant une échelle logarithme de base 10. Ainsi, une augmentation du niveau sonore d'un Bel équivaut à décupler l'énergie acoustique. Toutefois, le Bel constitue une unité représentant une somme énergétique importante, de sorte qu'il est plus approprié d'utiliser le décibel, une unité dix fois plus petite. L'acuité auditive dépend de la fréquence de l'onde. Elle atteint son maximum aux alentours de la fréquence de 1,000 Hertz (cycles par seconde) et diminue aux deux extrémités du spectre, soit 20 et 20,000 Hz respectivement. L'équipement de mesure du son est beaucoup moins dépendant de la fréquence utilisée, de sorte qu'un facteur de pondération est nécessaire pour relier le niveau sonore à l'acuité auditive humaine. L'échelle "A" est généralement utilisée dans les programmes de perte auditive. Dans ce cas, le niveau sonore pondéré est habituellement abrégé à dBA. La perte auditive est considérée se produire au-delà d'un seuil, 85 dBA et 90 dBA étant la norme dans diverses réglementations. La perte auditive est proportionnelle à la puissance de l'onde sonore et à la durée de l'exposition. Trois facteurs légaux sont utilisés pour établir la relation entre dommage potentiel et niveau sonore:

1. Le dommage double tous les 3 dBA – le principe d'énergie équivalente, à la base de nombreuses recommendations du contrôle de la perte auditive.
2. Le dommage double tous les 4 dBA – utilisé dans une recommendation ou plus.
3. Le dommage double tous les 5 dBA – en usage dans la principàles législation américaine, l'Acte de santé et sécurité occupationnelles (OSHA).

Les réglementations canadiennes sont émises aux niveaux provinciaux et fédéral: elles utilisent le facteur 1 ou le facteur 3.

En plus des pertes auditives potentielles, les niveaux sonores élevés entraînent des problèmes de sécurité, de fatigue et de communications.

La plupart des travaux sur le bruit ont été orientés vers des relevés du bruit dans les mines et vers l'appréciation de l'efficacité des mesures de protection de l'ouïe. Les relevés dans les mines ont démontré que plusieurs mineurs sont exposés à des niveaux sonores supérieurs au seuil de dommage auditif potentiel et qu'une protection immédiate de l'ouïe est nécessaire en parallèle à l'implantation de mesures de réduction du bruit de l'équipement et matériel minier.

Ce recueil incorpore tous les rapports de recherche sur le bruit et les vibrations réalisés par CANMET. La plupart des travaux ont été réalisés en collaboration avec des mines canadiennes, principalement avec des mines situées en Ontario et, à maintes reprises, avec l'assistance de l'Association de prévention des accidents miniers en Ontario (MAPAO). Deux recherches furent réalisées sur une base contractuelle. Quelques uns des premiers rapports de Miron Savich étaient basés sur sa thèse de maîtrise réalisée à l'Institut de Recherche minérale de l'Université McGill, situé à St-Hilaire, Québec.

Le recueil comprend six volumes, dont deux en plusieurs parties, comme suit:

1. Vol. 1–Glossaire, introduction et techniques de mesure.
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Dans chaque volume ou section, les rapports sont classés en ordre chronologique. Le glossaire (en anglais seulement) provient de l'amalgamation de termes contenus dans trois des rapports. Il est présentement à part au début, tout de suite après la table des matières.

Les techniques de mesure du bruit utilisées sont décrites dans quelques rapports du premier volume, ainsi que dans de nombreux autres reliés aux relevés de mines, usines et ateliers. Cinq classes principales de techniques de mesure du bruit ont été expériementées dans les relevés sonores. Ce sont:

1. Des appareils manuels pondérant les fréquences selon l'échelle "A", avec un temps de réponse assez lent et le calcul de la valeur moyenne sur une brève période, une seconde ou moins, et enregistrement manuel du résultat. Il s'agit de la technique utilisée lors des premiers relevés, puis occasionnellement par la suite. Une méthode graphique pour déterminer le niveau acoustique pondéré au cours du relevé est expliquée dans le rapporté 75-71.
2. Le sonomètre manuel a aussi été utilisé en mode de mesure des bruits d'impact pour des études d'impulsion, ou bruit de courte durée, comme dans le rapport 84-83.
3. Un système d'enregistrement pour la période de travail (8 heures), qui cumule le bruit moyen d'une période de courte durée, une minute par exemple, et la conserve en mémoire pour lecture ultérieure. Le système utilisé permettait la lecture de l'information à la fin de la période de travail et son traitement ultérieur informatisé, tel que décrit dans le rapport 78-62.
4. L'audio-dosimètre calcule le niveau sonore moyen sur une courte période de temps et, surtout s'il excède le niveau légal, calcule le rapport du niveau sonore obtenu au niveau permis pour la période de travail. L'instrument possède également un voyant lumineux qui indique un dépassement de la limite légale absolue de 115 dBA promulguée dans les règlements OSHA (sans aucun doute pour une ouïe sans protecteur). Cet instrument a été utilisé dans plusieurs relevés et lors de tests concernant les protecteurs auriculaires. Un tel appareil a été décrit et vérifié dans le rapport 76-83.
5. Le sonomètre d'analyse fréquentielle. Cet instrument mesure le niveau acoustique moyen dans chaque bande de fréquence significative, habituellement de la largeur d'un tiers d'octave. L'instrument est nettement recommandable, puisque l'atténuation du bruit par toute barrière est fonction de la fréquence et parce que la fréquence d'un son agresseur contribue à localiser sa source. Les protecteurs auriculaires sont des atténuateurs de son et, de ce fait, dépendent de la fréquence d'émission. Ils n'atténuent pas les basses fréquences avec autant de bonheur que les hautes fréquences.

Les protecteurs supra-auriculaires ont démontré des habiletés d'atténuation allant de 31 à 44 dBA en laboratoire pour les fréquences de 1,000 Hz et plus. Les montures de lunettes de sécurité passées sous les coussins du protecteur réduisent cependant la protection qui passe alors de 25 à 34 dBA. Comme le port de lunettes protectrices est obligatoire pour la plupart des postes de travail dans l'industrie minière, des études sur le terrain dans les mines ont démontré que la protection réelle obtenue par des protecteurs supra-auriculaires peut ne pas dépasser 10 dBA. Les relevés effectués à Falconbridge Ltée, rapports 86-58, 86-59, 86-60, 86-61 avec un résumé final dans 86-88, illustrent la validité de tels travaux. La figure 1 (voir page 5) illustre l'atténuation en dBA (base OSHA) des protecteurs supra-auriculaires en usage dans les mines, où cette dernière est comparée au niveau acoustique pondéré en dBA (décrit différemment dans les rapports comme $L_{eq}(60s)$; L_{OSHA} ou $L_{Avg.}$). La ligne d'atténuation requise est illustrée en assumant que les niveaux acoustiques moyens persistent tout au long de la période de 8 heures et que des bouchons d'oreilles ne sont pas utilisés. Cette figure suggère que la moitié de la population des mineurs n'est pas protégée au niveau légal requis. Toutefois, aucune de ces deux hypothèses n'est vraie et il est fort probable qu'une proportion largement supérieure à la moitié se trouve protégée au niveau requis. La principale raison de la faible performance des protecteurs supra-auriculaires en pratique découle d'un mauvais ajustement, la force du ressort étant souvent inadéquate, principalement chez les individus ayant un faible tour de tête. L'emphase a été mise sur la mesure et le contrôle de la force de serre et le besoin d'ajuster les supports des protecteurs au tour de tête. Des recommendations basées sur ces relevés ont donc été faites, afin d'améliorer les programmes de contrôle pour la protection de l'ouïe.

Les relevés sonores constituent un recueil d'informations. Les relevés détaillés, utilisant la technique d'enregistrement des données, constituent l'essentiel des volumes 3 et 4, et contiennent de l'information précieuse pour tous ceux qui entreprennent des programmes de contrôle du bruit dans des opérations minières. Près de 700 jours-hommes ont été enregistrés lors des relevés détaillés. Il est ainsi possible de constater que la distribution d'exposition des mineurs au bruit varie, au cours de la période de travail, de presque constante à très variable. Dans les mines, 262 des 432 périodes de travail enregistrées l'ont été à l'aide de l'audio-dosimètre en niveau relatif à l'exposition permise. Les valeurs les plus fortes indiquaient un dépassement du seuil de 40 fois, signifiant une protection de l'ouïe de l'ordre de 28 dBA d'atténuation. Cette atténuation serait encore supérieure si les nouveaux standards proposés par OSHA étaient utilisés comme base au lieu des règles actuelles (au moment où les rapports étaient rédigés). Dans les usines et ateliers de surface, seulement 13 des 250 périodes de travail enregistrées l'ont été à l'aide de l'audio-sonomètre. La valeur la plus forte requerrait une atténuation de l'ordre de 10 dBA pour assurer la protection légale de l'ouïe.

Les travaux de contrôle du bruit ont été entrepris sur des foreuses à percussion de poids léger à moyen, sur les foreuses à diamant et sur les systèmes d'échappement des moteurs diesels. Les études sur les foreuses à diamant ont démontré un besoin d'investigation approfondie de toutes les sources de bruit, quatre sources majeures ayant été identifiées. La réduction d'une seule source résulterait en une atténuation à peine discernable du niveau acoustique moyen, à savoir 1 dBA. Elle pourrait cependant modifier la qualité sonore de façon appréciable.

Les niveaux sonores élevés mesurés dans les mines mettent l'emphase sur le besoin de travaux importants, afin de réduire le bruit du matériel minier. Il est probable qu'il faudra éventuellement limiter l'exposition des travailleurs à des bruits n'excédant pas 85 dBA et que l'usage de protecteurs auriculaires devienne une condition de travail indésirable, à éliminer.

L'étude contractuelle sur les vibrations a démontré que les foreuses manuelles verticales et sur béquille exposaient le mineur à des niveaux vibratoires suffisants pour induire le phénomène de Raynaud (insensibilité de la main) chez plus de la moitié de la population sur une période allant de 1 à 4 ans. Elle a aussi permis de démontrer que les isolants vibratoires permettent de réduire la transmission des vibrations à la main et suggéré de développer des poignées isolant les vibrations et de les adapter aux foreuses à percussion. Ces relevés ont aussi identifié des sites où les vibrations corporelles excédaient les directives dans les usines et ateliers de surface. Les véhicles souterrains à moteur diesel ne furent pas examinés.

Le rapport 73-17, dans la section "divers" du volume 6 expose bien les problèmes de bruit et vibrations dans les mines. Les sujets abordés sont la mesure du bruit et des vibrations, les standards d'exposition au bruit et aux vibrations, les sources de bruit et de vibrations, et les méthodes de contrôle.

Il faut enfin mentionner que plusieurs des rapports couvrent plus d'un sujet et qu'ils n'ont pas de renvoi mutuel. Ils sont inclus dans le manuel qui correspond au principal aspect étudié.

Les pages des rapports n'ont pas été renumérotées. Pour mieux localiser chaque rapport, une page rouge est insérée au début de chacun. Chaque rapport est numéroté dans le coin supérieur droit et contient, en plus, son titre propre et la description du contenu, ainsi que son lieu d'édition lorsqu'il ne s'agit pas d'un rapport divisionnel. Un résumé français est compris avec chaque rapport.

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76 - 91 M. Savich

Noise measurements in the Concentrator

at Brunswick Mining and Smelting.

No. 12 mine

1976

MESURES DU BRUIT DANS LE CONCENTRATEUR DE LA BRUNSWICK MINING AND SMELTING CORPORATION LTD.

M. Savich*

RÉSUMÉ

Les niveaux de bruit dans un concentrateur varient en fonction du mode d'exploitation de l'installation et des machines.

Deux propositions relatives à l'évaluation des bruits sont étudiées :

1) "Évaluation de l'exposition au bruit pendant le travail à des fins de protection de l'ouïe" et
2) "Évaluation du bruit du point de vue de la réponse collective".

La première proposition est basée sur le risque de dommage auditif (en dBA), alors que l'autre porte davantage sur les effets nuisibles du bruit (valeurs d'évaluation N).

Une relation entre les critères de réduction du bruit en dBA et les valeurs d'évaluation N correspondantes a été établie. La valeur numérique du critère en dBA doit être considérée comme dépassant d'environ 4 la valeur correspondante du critère d'évaluation N.

Tous les résultats des mesures sont représentés graphiquement et sont mis sous forme de tableaux. Les résultats des mesures réalisées à l'aide de dosimètres de bruits ont montré que dans deux cas seulement l'opérateur devrait porter des protecteurs d'oreilles.

Les recherches futures doivent nous fournir les outils qui nous permettront de faire de meilleures prévisions relatives aux bruits et de montrer comment ceux-ci influent sur les travailleurs.

Concentrateur, évaluation des bruits, exactitude, exposition au bruit

*Chercheur scientifique, Laboratoire d'Elliot Lake, Laboratoires de recherche minière, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENTS IN THE CONCENTRATOR AT BRUNSWICK MINING AND SMELTING CORPORATION LTD.

by

M. Savich*

ABSTRACT

Noise levels in a concentrator vary with the mode of operation of the plant and machines.

Two noise rating proposals are discussed:

(1) "Assessment of Noise-Exposure During Work for Hearing Conservation Purposes" and

(2) "Noise Assessment with Respect to Community Response".

The first proposal is based on hearing damage risk (in dBA), while the other is more related to the annoying effects of the noise (N-rating values).

A relationship between the noise control criteria in dBA and the corresponding N-rating values was evaluated. The numerical value of the dBA criteria should be taken as ~4 higher than the corresponding criterion in N-rating.

All measurement results are shown graphically and are tabulated. The results of the measurements by noise dosimeters showed that only in two instances should the operator wear ear protectors.

Future research must give us the tools to make better predictions about noise, and show how it affects workers.

Concentrator, Noise Rating, Accuracy, Noise Exposure

*Research Scientist, Elliot Lake Laboratory, Mining Research Laboratories, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario.

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INTRODUCTION

The purpose of this investigation was to determine noise level in the plant, and to conduct measurement of the Noise Exposure Index (NEI) of employees. Also, the noise control design was done for Symons cone crushers.

THE NOISE LEVEL IN PLANT

The crushing and screening plant is the standard type used in uranium mines (Fig. 1). Measurements taken in the plant indicate that the average noise level is high (Table 1). The level of noise enables division of the plant into three parts:

1) High noise level around Tyler screen and the cone crusher (measurement Nos. 13 to 33);
2) Medium noise level around the jaw crusher (measurement Nos. 1 to 12); and
3) Low noise level at the conveyor and Tripper screen (measurement Nos. 34 to 48, except No. 39 where there is influence of noise from the Tyler screen).

The measurements represent noise from many machines tied into the technological process: for example Jeffrey and Torano feeders at measurement Nos. 1 and 2, 92 and 90 dBA, and those at measurement Nos. 14, 15, 18 and 19, 98 and 99 dBA. The two main sources of noise are the Tyler screens (Nos. 16 and 17) and the cone crushers (Nos. 32and 33). Noise from cone crushers can be simply isolated, while that from Tyler screens cannot be isolated.

On the basis of results of noise measurements in Table 1, bar graphs of the sound pressure level, maximum level and equivalent continuous sound level were constructed (Fig. 2). The bar graphs allow the following conclusions:

1) The arithmetic mean difference between sound pressure level and maximum (pink) level is 2 dBA. On the basis of this we conclude that this is the continual long range noise type.

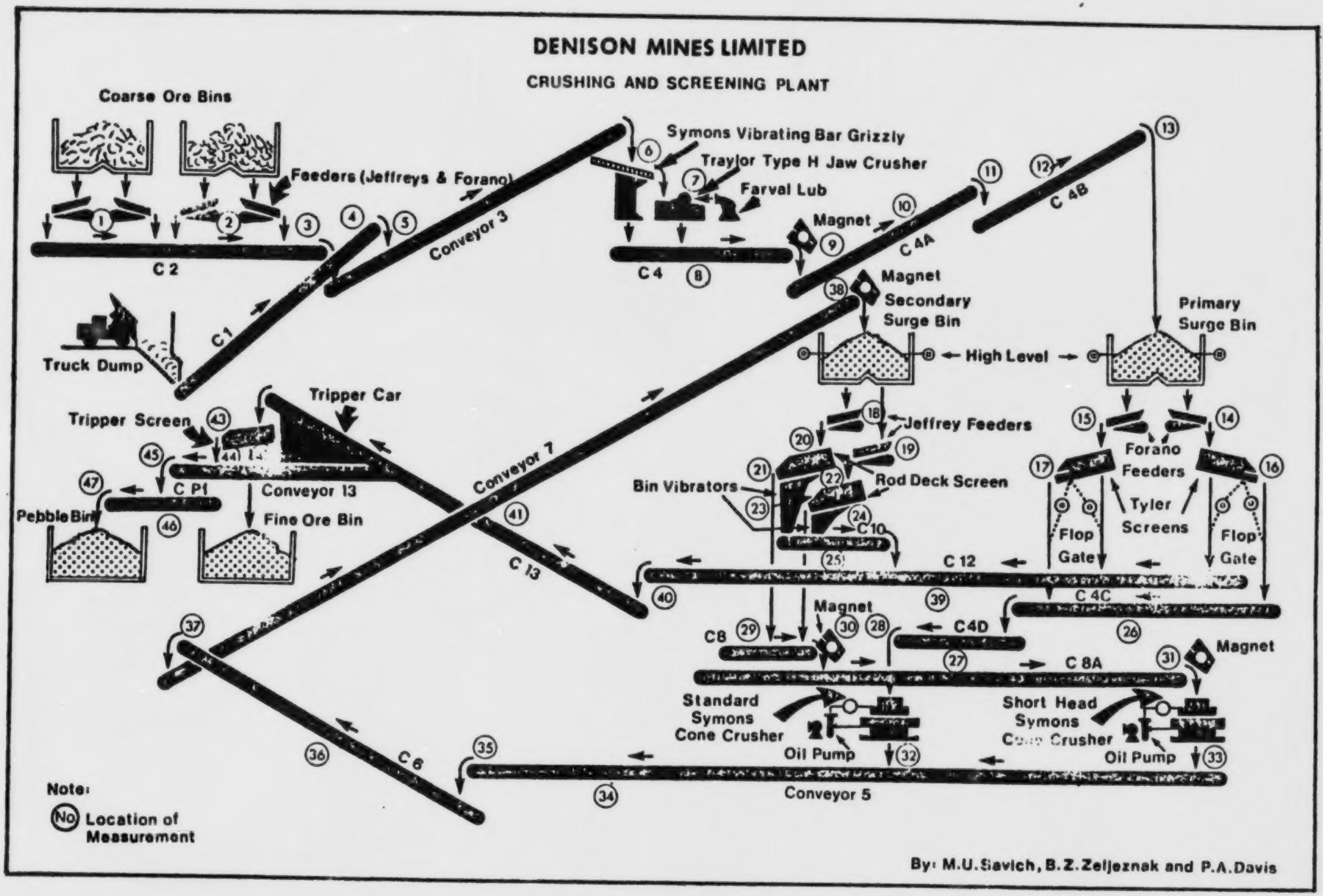
DENISON MINES LIMITED
CRUSHING AND SCREENING PLANT
Coarse Ore Bins
Feeders (Jeffreys & Forano)
C 2
Truck Dump
C 1
Conveyor 3
Symons Vibrating Bar Grizzly
Traylor Type H Jaw Crusher
Farval Lub
C 4
Magnet
C 4A
C 4B
Magnet
Secondary Surge Bin
Primary Surge Bin
High Level
Jeffrey Feeders
Forano Feeders
Rod Deck Screen
Bin Vibrators
Tyler Screens
Flop Gate
Flop Gate
C 10
C 12
C 4C
C 4D
Magnet
C8
C 8A
Magnet
Standard Symons Cone Crusher
Short Head Symons Cone Crusher
Oil Pump
Oil Pump
Conveyor 5
C 6
Conveyor 7
C 13
Tripper Car
Tripper Screen
Conveyor 13
C P1
Fine Ore Bin
Pebble Bin
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊸ (44) (45) (46) (47)
Note:
No Location of Measurement
By: M.U.Savich, B.Z.Zeljeznak and P.A.Davis

Fig. 1: Locations of measurements in crushing and screening plant.

Table 1 - Results of noise measurements of the sound pressure level, peak sound pressure level and equivalent sound level of different machines

Measur. No.	Machine No.	Site	1st Surveyor			2nd Surveyor		
			dBA			dBA		
			SPL	L_{max}	L_{eq}	SPL	L_{max}	L_{eq}
1		Feeders (Jeffrey)	92	101	91	90	92	
2		Feeders (Forano)	90	93	91	91	93	
3	C2	Conveyor operator	93	97	94	92	95	
4	C1	Conveyor operator	92	102	94	91	92	
5	C1	Conveyor	95	99	97	95	100	
6		Grizzly	97	100	97	-	-	
7		Jaw crusher	92	101	95	96-98	99	
8	C4	Conveyor	91	97	93	93	98	
9	C4	Conveyor magnet	93	100	99	95	97	
10	C4A	Conveyor	97	97	97			
11	C4A	Conveyor	95	96	95			
12	C4B	Conveyor	89	90	89			
13		Top of surge bin	103	106	103			
14		Feeder (Forano)	99	100	99			
15		Feeder (Forano)	98	100	99			
16	1	Tyler screen	101	103	101			
17	2	Tyler screen	101	102	101			
18		Feeder (Jeffrey)	98	100	99			
19		Feeder (Jeffrey)	98	99	97			
20	1	Rod deck screen	96	99	97			
21	1	Rod deck screen	97	98	97			
22	1&2	Between screens	101	103	101			
23	2	Rod deck screen	97	99	98	95		
24	2	Rod deck screen	99	103	101	95		
25	C10	Conveyor	98	100	99			
26	C4C	Conveyor	101	102	100			
27		Operator	101	103	101	99	100	
28	C4D	Conveyor	103	105	103			
29	C8	Conveyor	96	97	96			
30	C8	Conveyor magnet	98	100	98			
31	C8A	Conveyor	99	101	100			
32		Standard cone crusher	107	109	107	105	106	
33		Short head cone "	104	105	103	103	104	
34.	C5	Conveyor	80	81	60			
35	C5	Conveyor	89	90	89	85	87	
36	C6	Conveyor	88	90	87	87	87	
37	C6	Conveyor	87	88	87	86	89	
38	C7	Conveyor	95	97	95			
39	C12	Conveyor	104	107	105			
40	C12	Conveyor	83	85	62			
41	C13	Conveyor	84	85	71			
42		Tripper screen	89	93	90	89	94	
43		Tripper screen	75	79	61			
44	C13	Conveyor	85	89	85			
45	C13	Conveyor	95	96	95			
46	P1	Conveyor	83	85	61			
47	P1	Conveyor	84	91	84			
48		Lunch room*	72	82		71	82	
		Mean	94.43	97.09	92.85	93.57	95.40	
		Std.Dev.	7.03	6.87	11.46	5.49	5.97	

* Not estimated

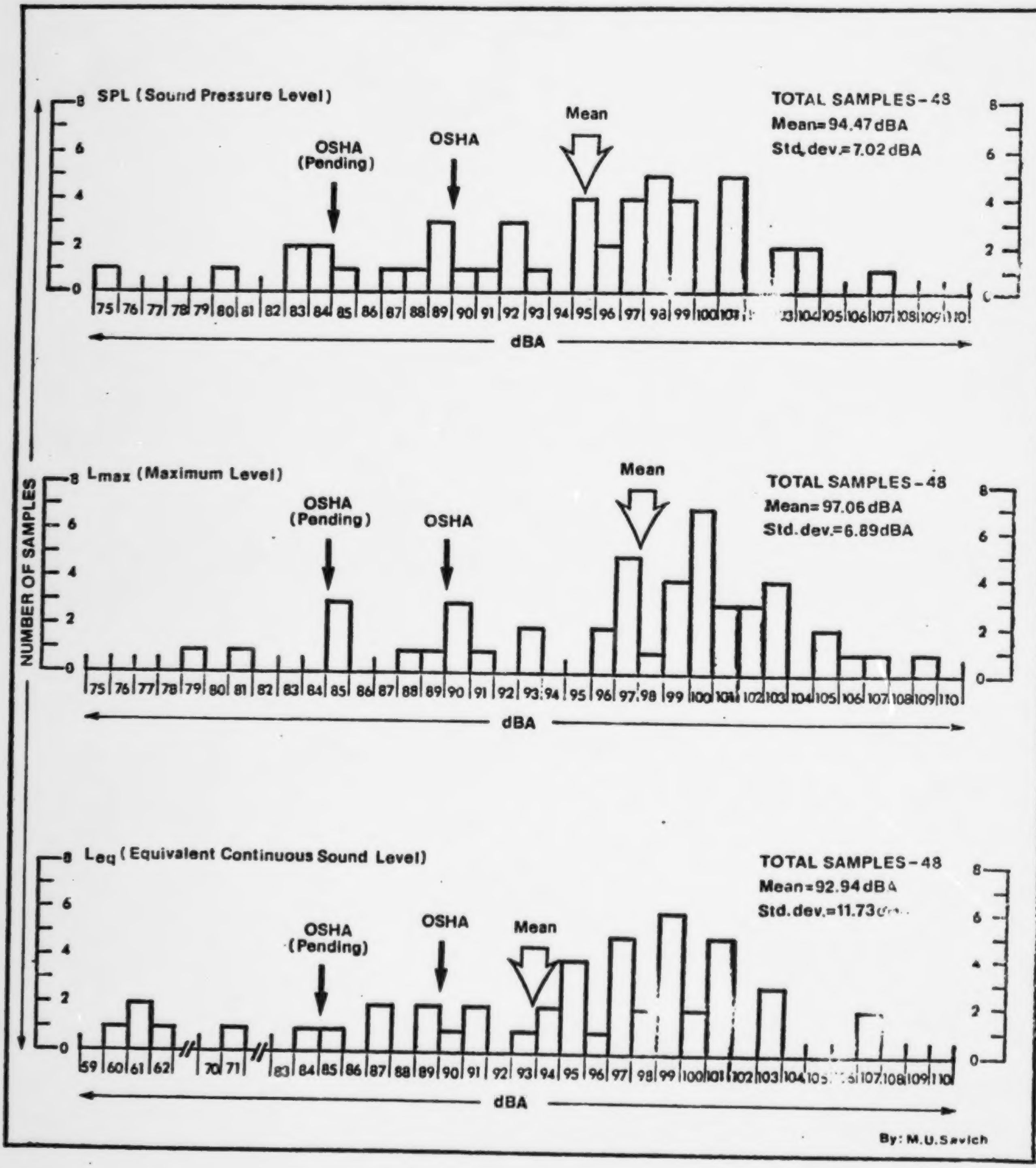

Fig. 2: Density bar graph of the sound pressure level, maximum level and equivalent continuous sound level in crushing and screening plant.

2) Mean continuous sound level is lower than the mean sound pressure level by 2 dBA, but it should be in close agreement (± 1 dBA) with sound pressure level. The difference of 2 dBA and standard deviation of 11.66 dBA indicate that machines are working under a changing load (Table 1).

3) Maximum levels on the bar graphs are widely distributed excluding the possibility of normal curve construction. Noise over 85 dBA should be reduced on each machine individually using damping, vibration isolation, sound barriers and smoother discontinuities.

At various time intervals noise in the crushing and screening plant was measured with the 306 Metrologger (first surveyor) and with the sound level meter, B and K, type 2205 (second surveyor) (Table 1). The differences between these two measurements are very small.

MEASUREMENT OF NOISE EXPOSURE INDEX OF EMPLOYEES IN PLANT

The data in Appendix 1 gives a detailed analysis of noise exposure of employees in the crushing and screening plant. In fact, data is given on each individual worker. The most important data from Appendix 1, time, LOSHA and the distribution of time by steps of 5 dBA, are presented in Table 2. Ten workers, Nos. 22, 23, 24, 25, 26, 27, 28, 29, 36 and 37, have only partial information of measurement due to delay of tape punch delivery. Analysis of these data indicates that:

1) Only operators in the plant are over-exposed. The plant is not in steady operation. On the average the operator's working day is shortened by 52 min. Because of this the equivalent continuous sound level has different values (Fig. 3). This is important for engineering and administrative control. Operators near cone crushers are exposed to higher levels of noise than operators of the jaw crusher.

Table 2 - Results of LOSHA and time during work day.

	[illegible]	[illegible]		(min)	(dBA)	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	(min)
1	1416	170	Operator	434	95.7	49	13	12	23	17	28	107	146	80	5	0	0	480
2	0883	170	Operator	460	98.3	59	7	8	1	6	4	25	165	205	0	0	0	480
3	0378	172	Operator	422	90.5	225	21	17	11	12	21	86	54	31	2	0	0	480
4	0332	172	Operator	385	92.9	209	29	19	24	20	23	41	33	81	0	1	0	480
5	0378	172	Operator	423	92.7	192	47	17	22	20	47	25	28	77	5	0	0	480
6	4546	172	Operator	460	88.9	88	16	14	29	29	54	232	17	1	0	0	0	480
7	0121	172	Operator	386	84.7	258	39	27	16	11	22	100	7	0	0	0	0	480
8	0294	172	Operator	409	87.8	226	39	35	21	30	29	51	26	22	1	0	0	480
9	0133	172	Operator	442	87.6	316	20	8	17	16	12	24	37	30	0	0	0	480
			Mean	426	91.01	180.22	25.67	17.44	18.22	17.89	26.69	76.78	57.00	58.56	1.44	0.11	0	480
			Std.Dev.	29.5	4.30	93.52	13.59	8.82	8.29	7.96	15.67	66.82	57.52	63.64	2.13	0.33	0	480.02
10	0700	143	Mechanic	418	84.8	279	31	12	18	13	17	87	22	1	0	0	0	480
11	0807	001	Mechanic	417	89.0	228	16	12	9	7	24	117	62	3	2	0	0	480
12	0637	143	Mechanic	449	86.9	263	18	17	11	21	39	44	56	11	0	0	0	480
13	0280	001	Mechanic	425	82.9	270	62	46	32	21	13	9	12	11	4	0	0	480
14	0735	001	Mechanic	445	92.4	68	22	25	23	17	49	112	156	5	3	0	0	480
15	0922	011	Mechanic	444	87.7	290	26	11	8	18	21	17	83	6	0	0	0	480
16	0843	001	Mechanic	461	78.4	318	38	25	15	16	45	17	4	2	0	0	0	480
17	0195	011	Mechanic	466	83.3	179	45	47	36	38	58	63	14	0	0	0	0	480
18	0922	001	Mechanic	454	77.2	282	52	38	34	14	39	18	3	0	0	0	0	480
19	0637	143	Mechanic	459	89.5	228	41	18	14	17	38	21	55	48	0	0	0	480
20	0280	001	Mechanic	458	82.3	194	54	37	46	40	57	36	13	3	0	0	0	480
21	[illegible]	143	Mechanic	458	80.1	291	35	35	17	22	27	43	10	0	0	0	0	480
22	[illegible]	001	Mechanic	461	79	-	-	-	-	-	-	-	-	-	-	-	-	-
23	0184	011	Mechanic	461	88	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0280	001	Mechanic	463	79	-	-	-	-	-	-	-	-	-	-	-	-	-
25	0127	X01	Mechanic	460	80	-	-	-	-	-	-	-	-	-	-	-	-	-
26	0746	031	Mechanic	463	79	-	-	-	-	-	-	-	-	-	-	-	-	-
27	4423	143	Mechanic	464	78	-	-	-	-	-	-	-	-	-	-	-	-	-
28	0726	X01	Mechanic	462	88	-	-	-	-	-	-	-	-	-	-	-	-	-
29	0195	011	Mechanic	463	78	-	-	-	-	-	-	-	-	-	-	-	-	-
			Mean	452.5	83.18	240.83	36.67	26.92	21.92	20.33	35.58	48.67	40.83	7.50	0.75	0	0	480
			Std.Dev.	15.3	4.74	68.49	14.79	13.28	12.27	9.63	15.18	37.96	45.07	13.33	1.42	0	0	480
30	0547	014	Welder	456	77.8	229	30	11	36	39	52	9	3	1	0	0	0	480
31	4377	014	Welder	450	85.7	221	48	38	28	17	25	46	53	4	0	0	0	480
32	0132	004	Welder	436	80.9	280	35	26	30	32	33	26	17	1	0	0	0	480
33	0538	004	Welder	456	85	235	49	26	17	11	30	82	28	2	0	0	0	480
34	4377	014	Welder	458	84.2	116	46	61	60	57	53	78	8	1	0	0	0	480
35	0132	004	Welder*	247	82	334	41	33	18	13	22	10	5	2	2	0	0	480
36	0538	004	Welder	464	80	-	-	-	-	-	-	-	-	-	-	-	-	-
37	0547	014	Welder	461	83	-	-	-	-	-	-	-	-	-	-	-	-	-
			Mean	454.4	82.37	230.20	41.60	32.40	34.20	31.20	38.60	48.20	21.80	1.80	0	0	0	480
			Std.Dev.	9.2	2.90	71.35	8.56	18.4[illegible]	15.97	18.28	13.01	31.88	19.87	1.30	0	0	0	480
38	0163	003	Electrician	[illegible]	80	351	21	10	16	27	20	16	17	1	1	0	0	480
39	9617	BOS	Shift boss	424	88.9	219	23	17	15	29	29	78	52	18	0	0	0	480
40	[illegible]	MEF	Foreman	463	73.6	337	43	33	21	15	17	14	0	0	0	0	0	480
41	9267	FOR	Foreman	474	62.3	468	2	4	3	1	1	1	0	0	0	0	0	480

* Not estimated

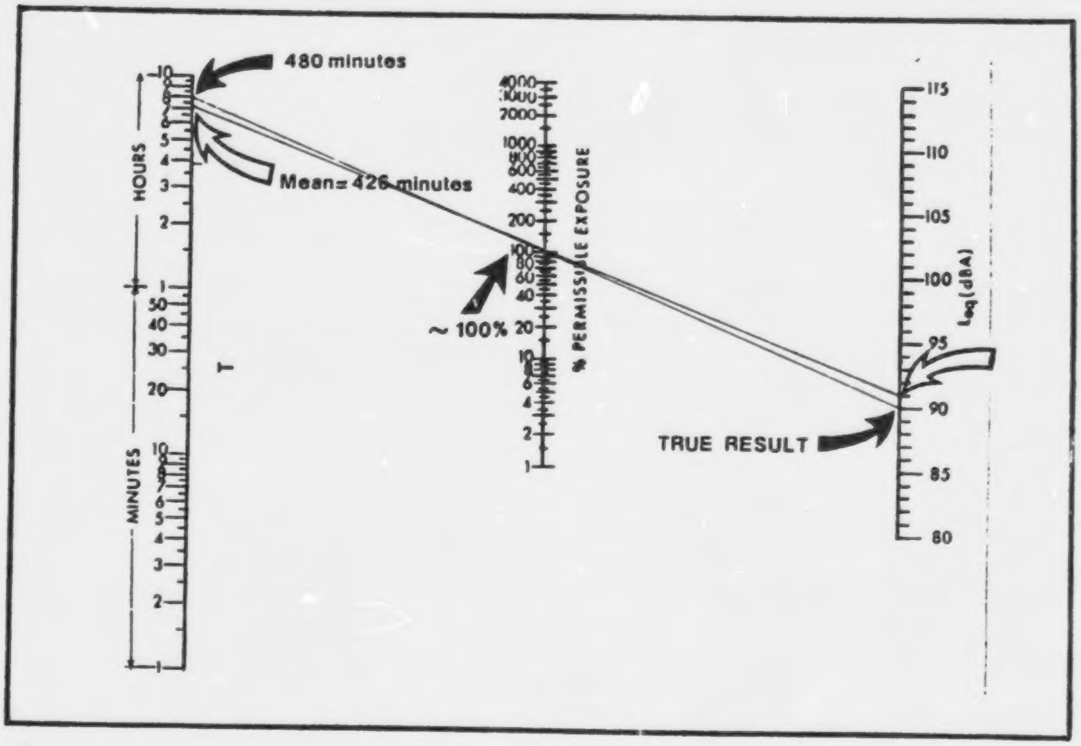

Fig. 3: Graphical evaluation of true equivalent continuous sound level ($L_{eq} = L_{OSHA}$).

2) Mechanics shorten the working time by 27.5 min. The L_{OSHA} mean is low, having a value of 83.2 dBA. During the time the plant is fully operational, mechanics are mostly located in low noise area. From the time history graphs in Appendix 1 (Nos. 10 to 21) it can be seen when the plant was operating at full capacity or when the first 5 hours of the shift were spent on maintenance work.

3) The welder's case is similar to the mechanics. The results of the measurements of welder No. 35 were not taken into account due to early departure from work.

The case of the foreman is characteristic (Appendix 1, No. 41). At the beginning of the shift he received the dosimeter, but 10 min later he took it off and placed it in a drawer. During the shift he opened the drawer twice (curiosity ?). The dosimeter was taken out of the drawer and placed on the table 15 min prior to the end of the shift. The test has no practical value, but has instructive value. The foreman did not set a good example for the workers.

The measurements of NEI indicate that operators suffer the highest exposure to noise. The other groups of workers are less exposed to noise due to their movement from the high noise area to the low noise area and vice versa. Over-exposure of mechanics and welders is rare (Table 2, No. 14). The major sources of noise are the Symons cone crushers. For this reason a design was made in order to control noise of the Symons standard cone and short head crushers.

THE NOISE CONTROL DESIGN FOR SYMONS CONE CRUSHERS

The noise levels of the secondary cone crusher were measured and analyzed. Eight measurements were carried out at a distance of 1 m from the periphery of the cone crusher. The mean value over all frequencies is illustrated in Fig. 4. The noise level was 106 dBA. The goal is to reduce noise to a minimum of 85 dBA. When the price of the enclosure is considered, an attenuation of 92 dBA would be minimally acceptable. Better attenuation is not necessary since the average noise in the plant without cone crushers is 94 dBA. Average noise around cone crushers (from measurement Nos. 18 to 40) is 95.6 dBA (Fig. 1 and Table 1).

DESIGN

The noise control design is made on the basis of elements and parts from the Industrial Acoustics Company Inc., Bronx, N.Y. 10462 (Fig. 5). The following factors were considered in the design:

1) acoustical criteria (attenuation);

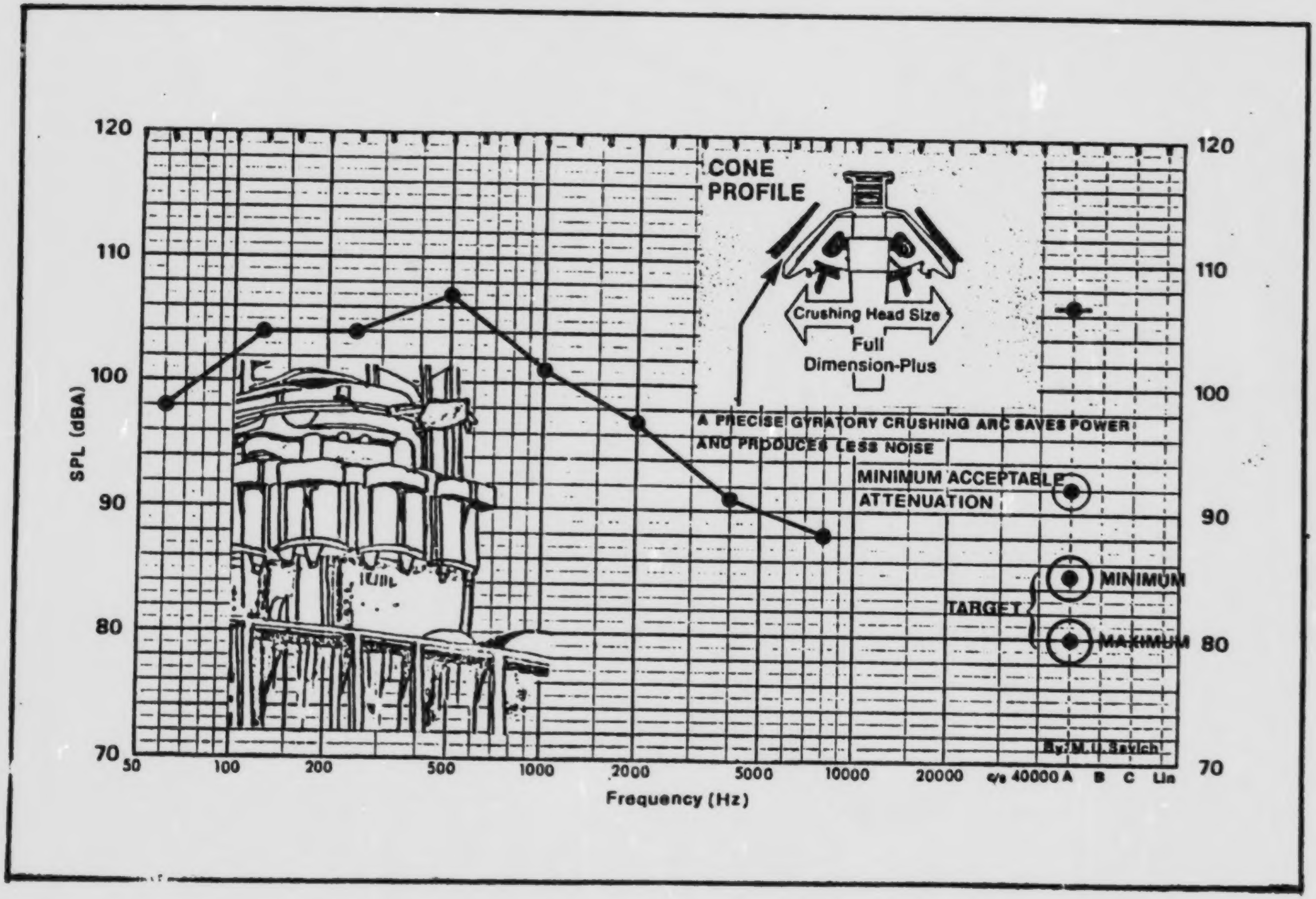

Fig. 4: Noise of cone crusher with other machinery in crushing plant.

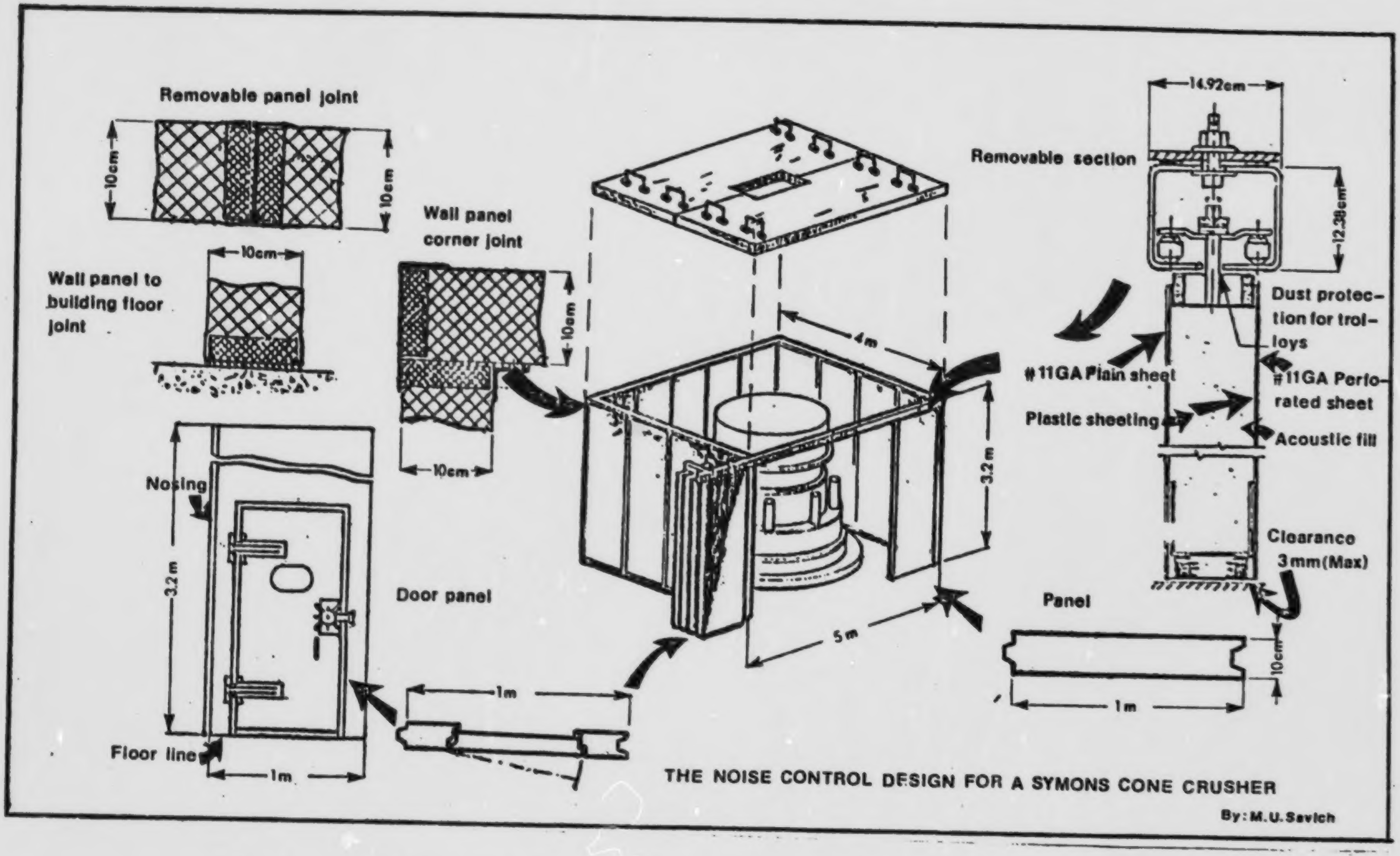
Removable panel joint
10cm
10cm
Wall panel to building floor joint
10cm
Wall panel corner joint
10cm
10cm
Nosing
3.2m
Floor line
1m
Door panel
1m
4m
3.2m
5m
Removable section
14.92cm
12.38cm
Dust protection for trolloys
#11GA Plain sheet
#11GA Perforated sheet
Plastic sheeting
Acoustic fill
Clearance 3mm(Max)
Panel
10cm
1m
THE NOISE CONTROL DESIGN FOR A SYMONS CONE CRUSHER
By: M.U. Savich

Fig. 5: The noise control design for a secondary crusher at Denison Mines Ltd.

2) construction materials (rugged and durable);
3) continuing production;
4) universal maintenance;
5) adaptable design for both cone crushers: standard and short head; and
6) low cost of enclosure.

Thirteen panels (5 m x 4 m x 3.2 m) are placed on three sides of the frame (Fig. 5). The frame is welded and bolted to the cement floor. Five removable panels are placed at the front. The second panel on the left has a soundproof door with an automatic lock. The ceiling enclosure has two panels with handles for the crane. An opening for rubber tubing allows delivery of ore to the crusher. During general maintenance or replacement of the crushing head the ceiling enclosure is lifted off. The exterior of the panels is lined with 11 gauge cold rolled steel. The interior of the panels is likewise lined with 11 gauge cold rolled steel with openings of 3 mm in diameter spaced 6 mm apart. The panels are filled with acoustic fill (slagwool) found in the plastic sheets. Other details are shown in Fig. 5: panel joint, corner joint, floor joint, door panel and trolleys.

SUPPLIER AND WORKMANSHIP

Five companies in Ontario and one in Quebec were asked by the Elliot Lake Laboratory to estimate the price for this design. Only one company, Fox-Richardson Ltd., replied, giving an estimate of $22,956. The catalogue included by this company was that of the Lord Corporation from the United States (Fig. 6).

CONCLUSIONS AND RECOMMENDATIONS

The noise level in the crushing and screening plant is above 90 dBA. The plant can be divided according to noise level, into three areas: high,

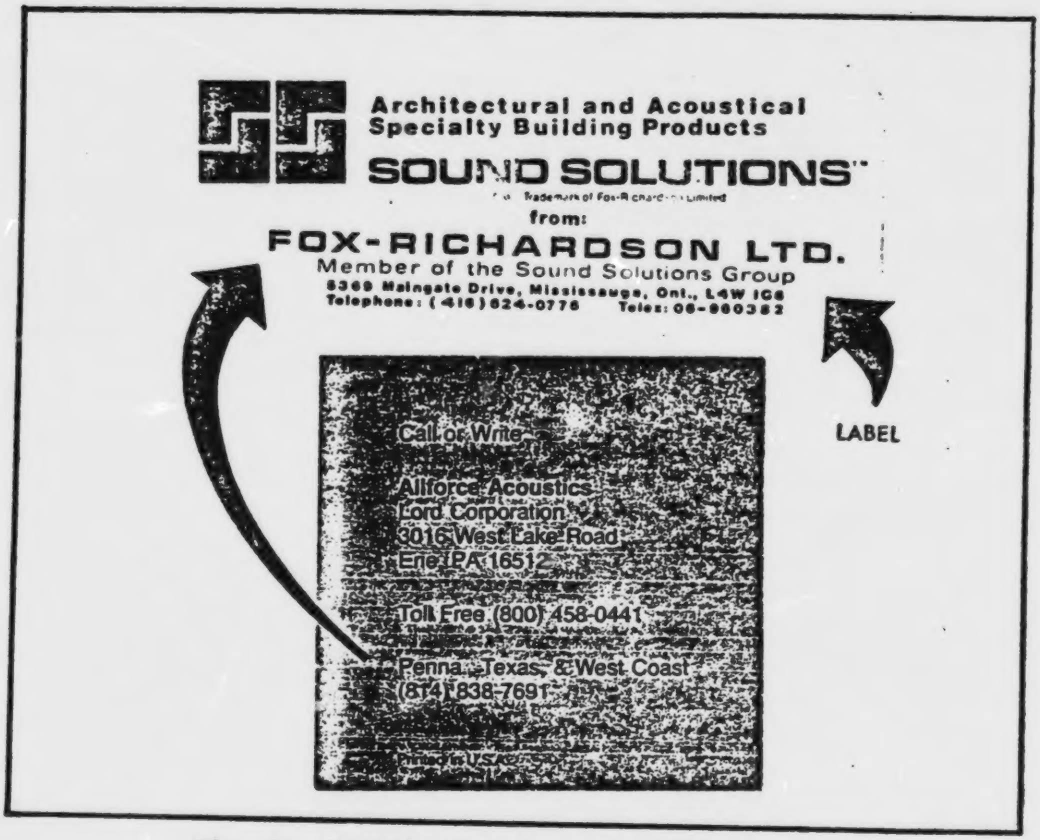

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Fig. 6: Canadian labelling of USA products

medium and low noise level.

The measurement of NEI showed that operators are over-exposed. Other categories of workers, mechanics, welders and others are exposed to permissible noise levels. Considering the noise level of the whole plant, one would conclude that the whole labour force is over-exposed, however, such is not the case. This indicates that the labour force is mostly in the low noise area or that workers leave the plant. Each worker's individual full record is presented in Appendix 1.

In order to decrease the focus of noise in the plant a design for enclosure of cone crushers is given. The analysis has shown that Canadian industry for applied acoustics is lacking in inventiveness and production, although the manufacturing of these products is relatively simple.

In the meantime the crushing plant has been reconstructed, thereby necessitating repeated measurements of noise. It is likely that the cone crushers have remained the major focus of noise and that measures are necessary for their attenuation.

If timely measures are taken workers will feel more secure on the job and their health will be protected, and productivity will increase. The measurements and the suggestions have a far reaching environmental impact.

APPENDIX 1

MEASUREMENT OF NOISE EXPOSURE INDEX IN CRUSHING AND SCREENING PLANT WITH FULL INFORMATION: L_{OSHA} (CURRENT AND CUMULATIVE): PERCENT DOSE (CURRENT AND CUMULATIVE): ARITHMETIC MEAN: STANDARD DEVIATION: VARIANCE: AMPLITUDE DISTRIBUTION (GRAPHICAL AND NUMERICAL): AND TIME HISTORY (GRAPHICAL).

①

Operator

```
..DH65108
ENTER LOG DATE (DD/MM/YR) : 31/05/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 1416

 ENTER JOB CODE (3 CHARS) : 170
  1  26  85  1224   60   64    4    1
  212159     109038  454
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  72  77  77  77  78  76  66  65  63  74  68  64  75  89  99  98
  95  97  98  96  96  96  94  88  87  90  89  89  90  99 103 101
  97  97  96  93  93  77  84  91  94  91  77  82  92  92  91  87
  72  87  93  94  95  95  95  78  82  89  93  94  93  93  93  93
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  89  93  92  93  92  64  90  91  93  92  92  92  84  88  91  74
  60  60  67  60  60  65  60  60  65  60  60  63  60  60  60  60
  71  73  67  60  60  66  62  97 100 101 101 102 102 101 101 101
 101 101 101 101 100 100  98  98 100  99  98  98 100 102 101 101
 100 101 102 102 101 102 105 103 101 101 103 104 101 100 101 102
 100 101 100 101  98  95  95  98 103 102 102 101 101 102 102  87
  91  90  89  93  99 101  98  97  99  97  93  95  97  97  96  96
  97  97  99 100 100 101 102 100  96  95  86  75  76  91  93  84
  97  97  99  98  97  97  95  90  90  96  91  93  97  97  96  94
  95  94  95  92  92  91  91  89  68  83  91  92  92  81  80 106
 108 108 106  77  90  99  99  96  85  92  86  76  89  93  94  99
  99  91  90  92  90  81  69  85  91  93  92  92  91  87  75  91
  92  92  93  91  91  90  78  89  92  92  85  86  93  95  98 101
 100  99  97  95  78  60  60  60  85  78  78  73  79  74  79  70
  81  60  67  72  69  69  80  95  99  97  96  95  96  97  99  97
  97  99  97  97  98  98  99  98  99 102 101 101 100  98 100 100
 100 100 100  99 100 100  99  98  91  95  96  96  96  95  95  96
  96  95  96  96  96  95  95  92  79  89  95  97  93  95  95  96
  96  96  94  94  96  97  96  96  96  96  93  84  88  94  93  92
  92  95 100 100  98  97  99  99  98 100  99  99  98  98  97 100
  99 100 101  98  97  97  97  98  99 101 101 102 103 102 102 102
  97  98  98  94  80  70  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




  DATA LOGGED :31  MAY 1979                DATA ANALYZED : 13  AUG 1979
       LOGGER : DB-301/26                       SITE CODE : CRUSH
SERIAL NUMBER : 1224                             JOB CODE : 170
     BASELINE : 60 DB                           USER CODE : 1416
DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  109038
TEST DURATION =    7:34:19                   STANDBY TIME =  14:43:59

        TIME HISTORY ANALYS:S

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) PATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 454
PERIOD =  1 MINUTES

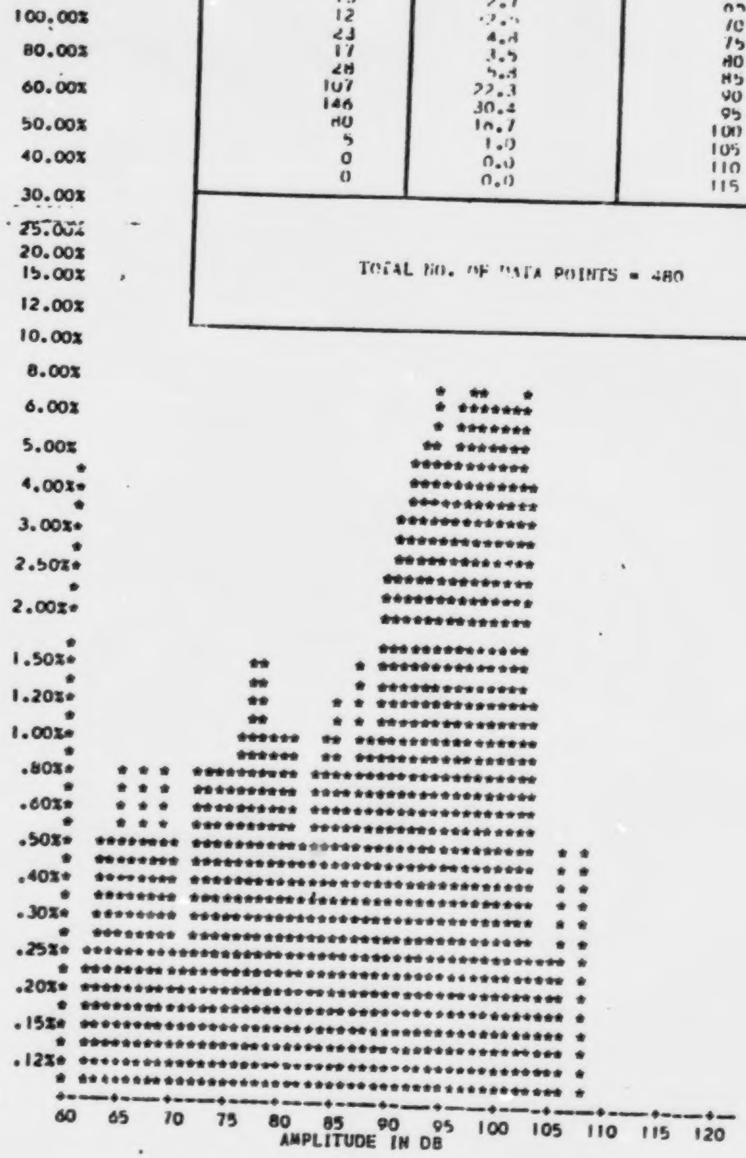
TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
  1       92.9      92.9           18.571     18.57
  2       92.3      92.6           17.303     35.87
  3       95.7      93.8           27.565     63.44
  4       98.9      95.4           42.825    106.26
  5       95.5      95.5           26.864    133.13
  6       92.8      95.1           18.463    151.59
  7       96.6      95.3           31.286    182.88
  8       98.9      95.7           24.341    207.22
MIN. COMP. =  60 DB               MAX. COMP. = 108 DB
ARITHMETIC MEAN =  91 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

①

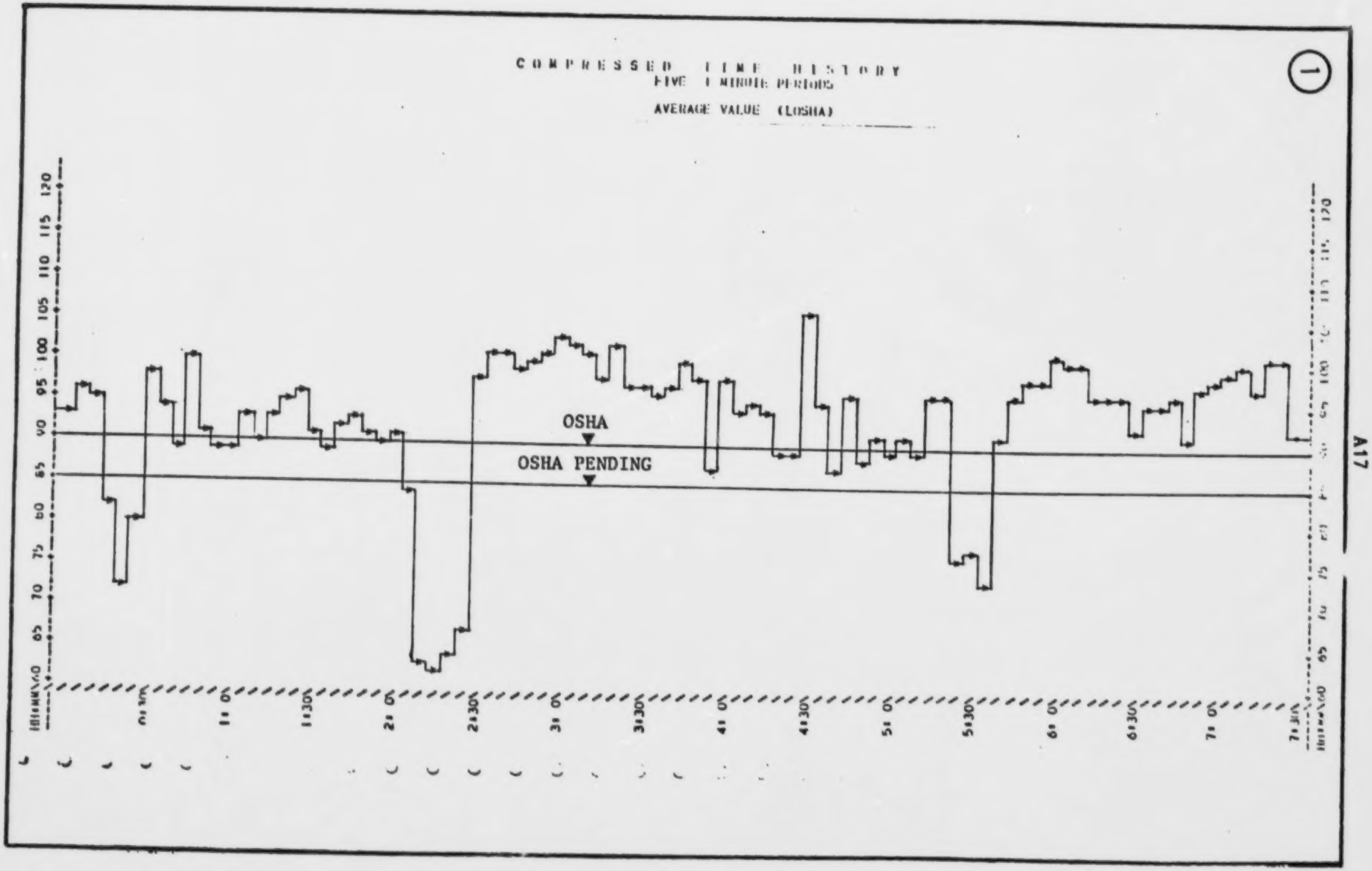
Amplitude Distribution

[illegible]		
[illegible]		[illegible]
NUMBER	PERCENT	
49	10.2	60 TO 64
13	2.7	65 TO 69
12	2.5	70 TO 74
23	4.8	75 TO 79
17	3.5	80 TO 84
28	5.8	85 TO 89
107	22.3	90 TO 94
146	30.4	95 TO 99
80	16.7	100 TO 104
5	1.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 454


①
COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
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3:30
4:0
4:30
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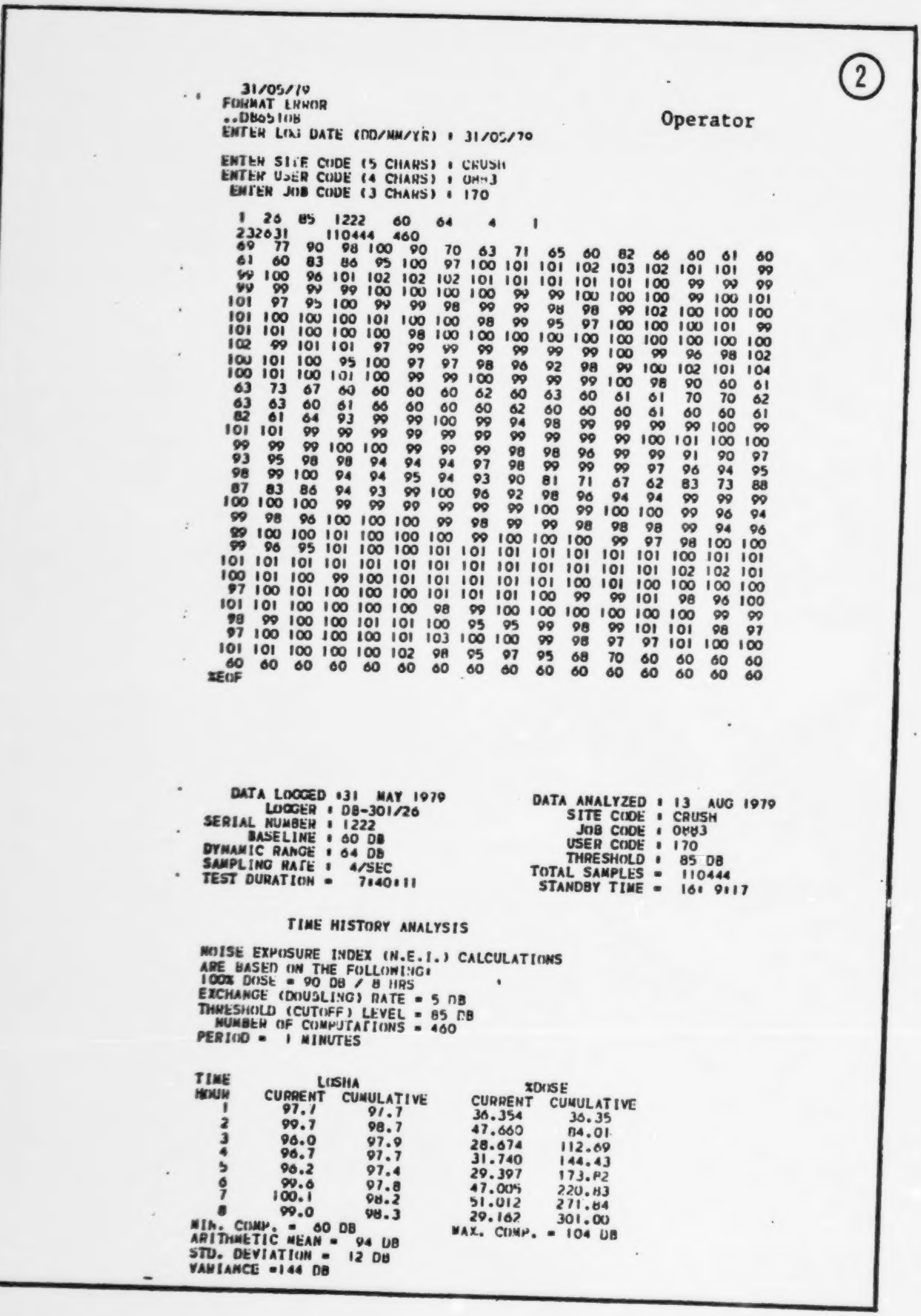
5:30
6:0
6:30
7:0
7:30



②

Operator

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  31/05/79
FORMAT ERROR
..DB65108
ENTER LOG DATE (DD/MM/YR) : 31/05/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0883
 ENTER JOB CODE (3 CHARS) : 170

  1  26  85  1222   60   64    4    1
 232631     110444   460
  69  77  90  98 100  90  70  63  71  65  60  82  66  60  61  60
  61  60  83  86  95 100  97 100 101 101 102 103 102 101 101  99
  99 100  96 101 102 102 102 101 101 101 101 101 100  99  99  99
  99  99  99  99 100 100 100 100  99  99 100 100 100  99 100 101
 101  97  95 100  99  99  98  99  99  98  98  99 102 100 100 100
 101 100 100 100 101 100 100  98  99  95  97 100 100 100 101  99
 101 101 100 100 100  98 100 100 100 100 100 100 100 100 100 100
 102  99 101 101  97  99  99  99  99  99  99 100  99  96  98 102
 100 101 100  95 100  97  97  98  96  92  98  99 100 102 101 104
 100 101 100 101 100  99  99 100  99  99  99 100  98  90  60  61
  63  73  67  60  60  60  60  62  60  63  60  61  61  70  70  62
  63  63  60  61  66  60  60  60  62  60  60  60  61  60  60  61
  82  61  64  93  99  99 100  99  94  98  99  99  99  99 100  99
 101 101  99  99  99  99  99  99  99  99  99  99 100 101 100 100
  99  99  99 100 100  99  99  99  98  98  96  99  99  91  90  97
  93  95  98  98  94  94  94  97  98  99  99  99  97  96  94  95
  98  99 100  94  94  95  94  93  90  81  71  67  62  83  73  88
  87  83  86  94  93  99 100  96  92  98  96  94  94  99  99  99
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  99  98  96 100 100 100  99  98  99  99  98  98  98  99  94  96
  99 100 100 101 100 100 100  99 100 100 100  99  97  98 100 100
  99  96  95 101 100 100 101 101 101 101 101 101 101 100 101 101
 101 101 101 101 101 101 101 101 101 101 101 101 101 102 102 101
 100 101 100  99 100 101 101 101 101 101 100 101 100 100 100 100
  97 100 101 100 100 100 101 101 101 100  99  99 101  98  96 100
 101 101 100 100 100 100  98  99 100 100 100 100 100 100  99  99
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  97 100 100 100 100 101 103 100 100  99  98  97  97 101 100 100
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    DATA LOGGED :31  MAY 1979             DATA ANALYZED : 13  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : CRUSH
  SERIAL NUMBER : 1222                          JOB CODE : 0883
       BASELINE : 60 DB                        USER CODE : 170
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110444
  TEST DURATION =   7:40:11                 STANDBY TIME =  16: 9:17

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 460
 PERIOD =  1 MINUTES

 TIME           LOSHA                          %DOSE
 HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1      97.7      97.7              36.354     36.35
    2      99.7      98.7              47.660     84.01
    3      96.0      97.9              28.674    112.69
    4      96.7      97.7              31.740    144.43
    5      96.2      97.4              29.397    173.82
    6      99.6      97.8              47.005    220.83
    7     100.1      98.2              51.012    271.84
    8      99.0      98.3              29.162    301.00
 MIN. COMP. =  60 DB                  MAX. COMP. = 104 DB
 ARITHMETIC MEAN =  94 DB
 STD. DEVIATION =  12 DB
 VARIANCE =144 DB
```

②

FREQUENCY DISTRIBUTION		
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NUMBER	PERCENT	
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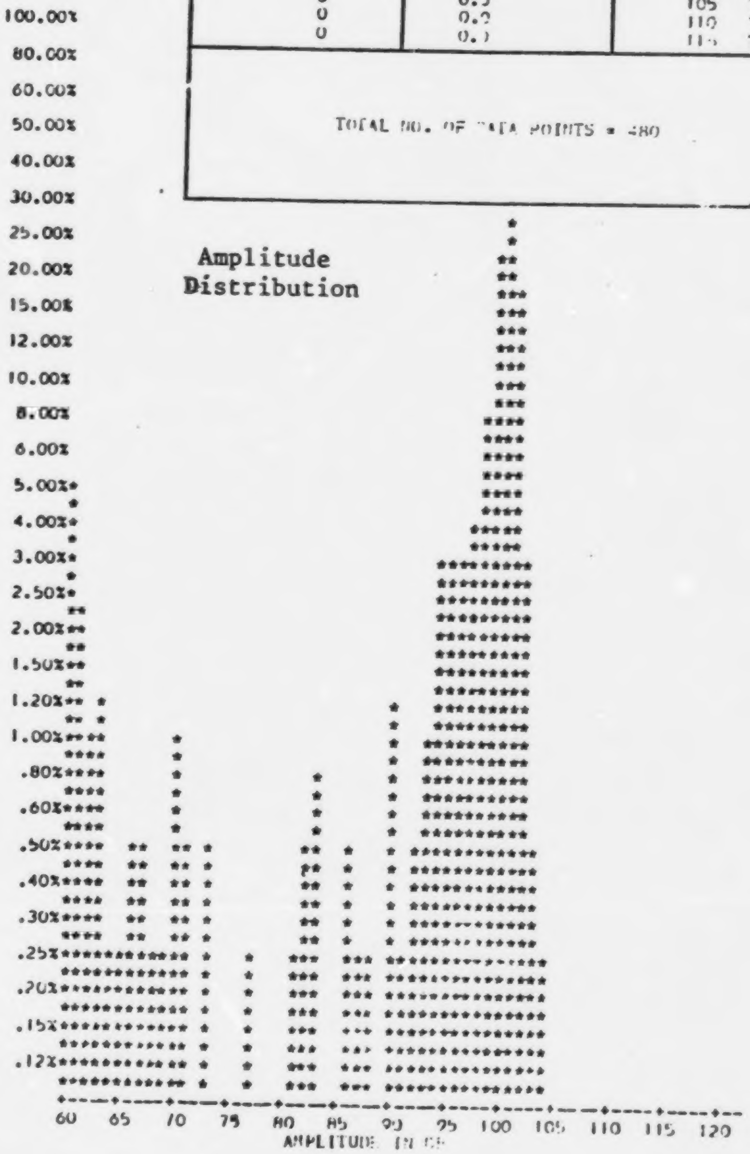
7	1.5	65 TO 69
8	1.7	70 TO 74
1	.2	75 TO 79
6	1.3	80 TO 84
4	.8	85 TO 89
25	5.2	90 TO 94
165	34.4	95 TO 99
205	42.7	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



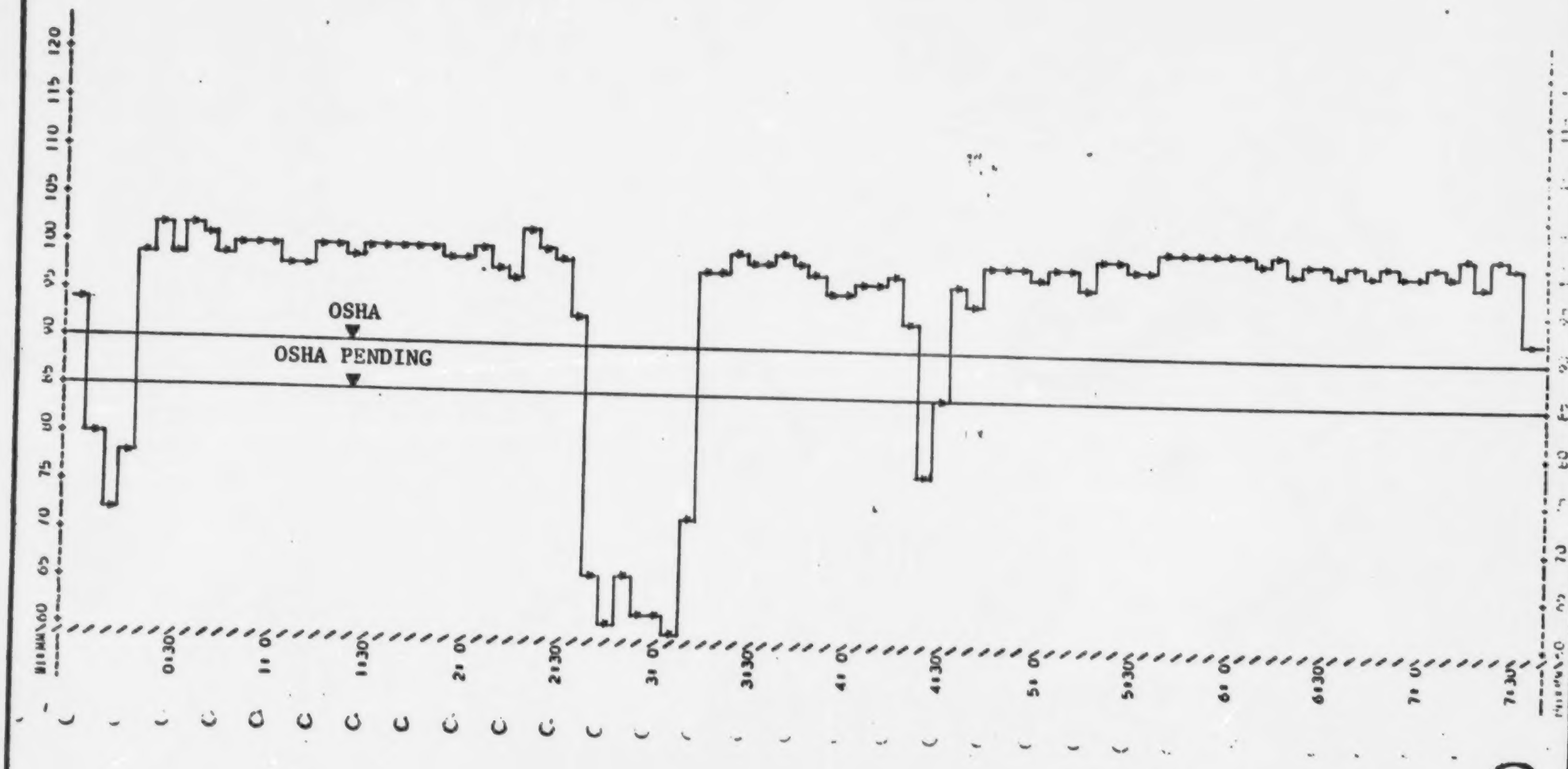
Amplitude Distribution

Number of computations = 460

②

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



③

Operator

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ENTER USER CODE (4 CHARS) : [illegible]
 ENTER JOB CODE (3 CHARS) : 172

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  93  93  92  91  90  82  72  62  60  60  91  72  61  78  70  75
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 101 100 101 100 100 100 100 100 100  99  85  89  86  93 101  93
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   SERIAL NUMBER : 1216                        JOB CODE : 172
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   DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  101386
   TEST DURATION =    7: 2:26              STANDBY TIME =  3: 6:46

           TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 422
  PERIOD =  1 MINUTES

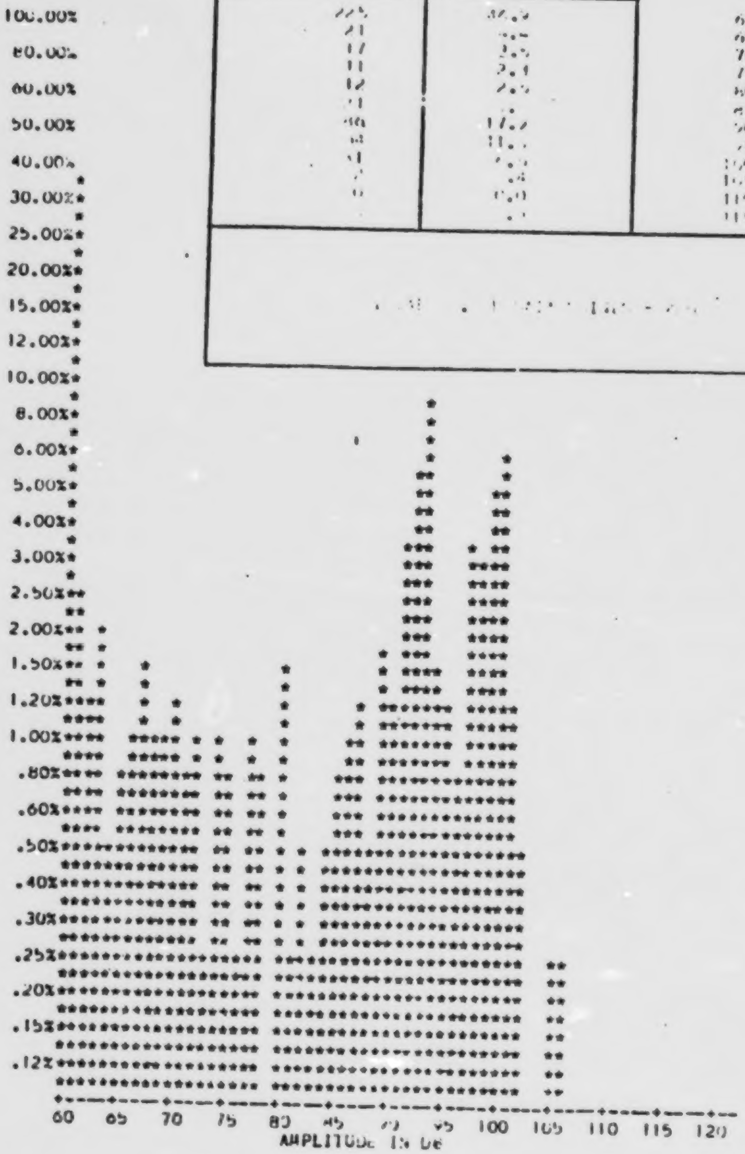
  TIME          LOSHA                         %DOSE
  HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
     1      73.4       73.4              1.260       1.26
     2      63.1       70.0               .302       1.56
     3      66.9       69.1               .505       2.07
     4      90.7       81.7             13.754      15.82
     5      96.5       87.9             30.991      46.81
     6      92.2       88.8             17.037      63.85
     7      96.0       90.4             28.805      92.65
     8      97.0       90.5              1.10[illegible]       93.75
  MIN. COMP. =  60 DB                MAX. COMP. = 106 DB
  ARITHMETIC MEAN =  77 DB
  STD. DEVIATION =  16 DB
  VARIANCE =256 DB
```

③

Amplitude Distribution

[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	60 TO 64
21	[illegible]	65 TO 69
17	[illegible]	70 TO 74
11	[illegible]	75 TO 79
12	[illegible]	80 TO 84
[illegible]	[illegible]	85 TO 89
[illegible]	[illegible]	90 TO 94
[illegible]	[illegible]	95 TO 99
[illegible]	[illegible]	100 TO 104
[illegible]	[illegible]	105 TO 109
[illegible]	[illegible]	110 TO 114
[illegible]	[illegible]	115 TO 119

[illegible]

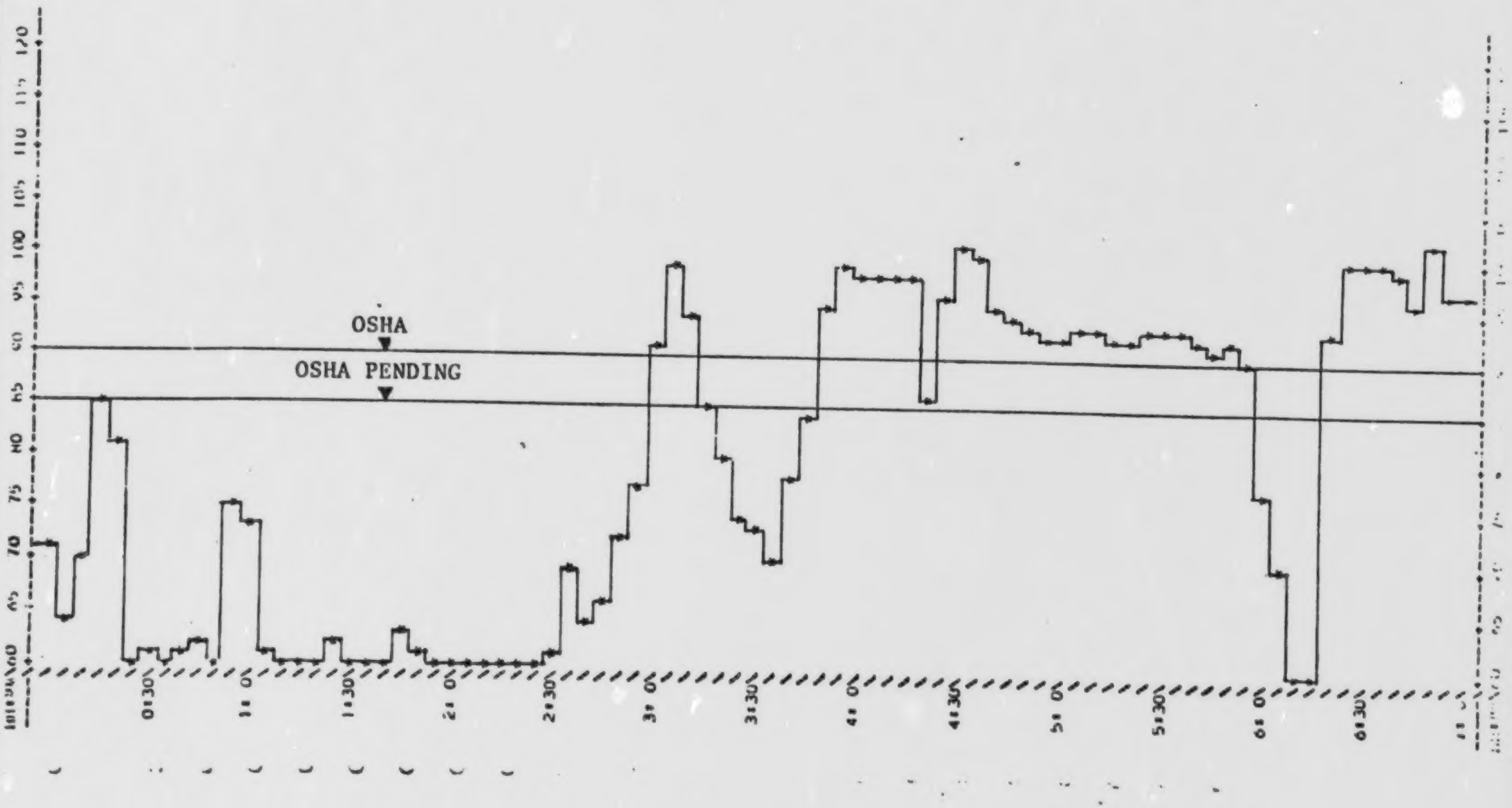


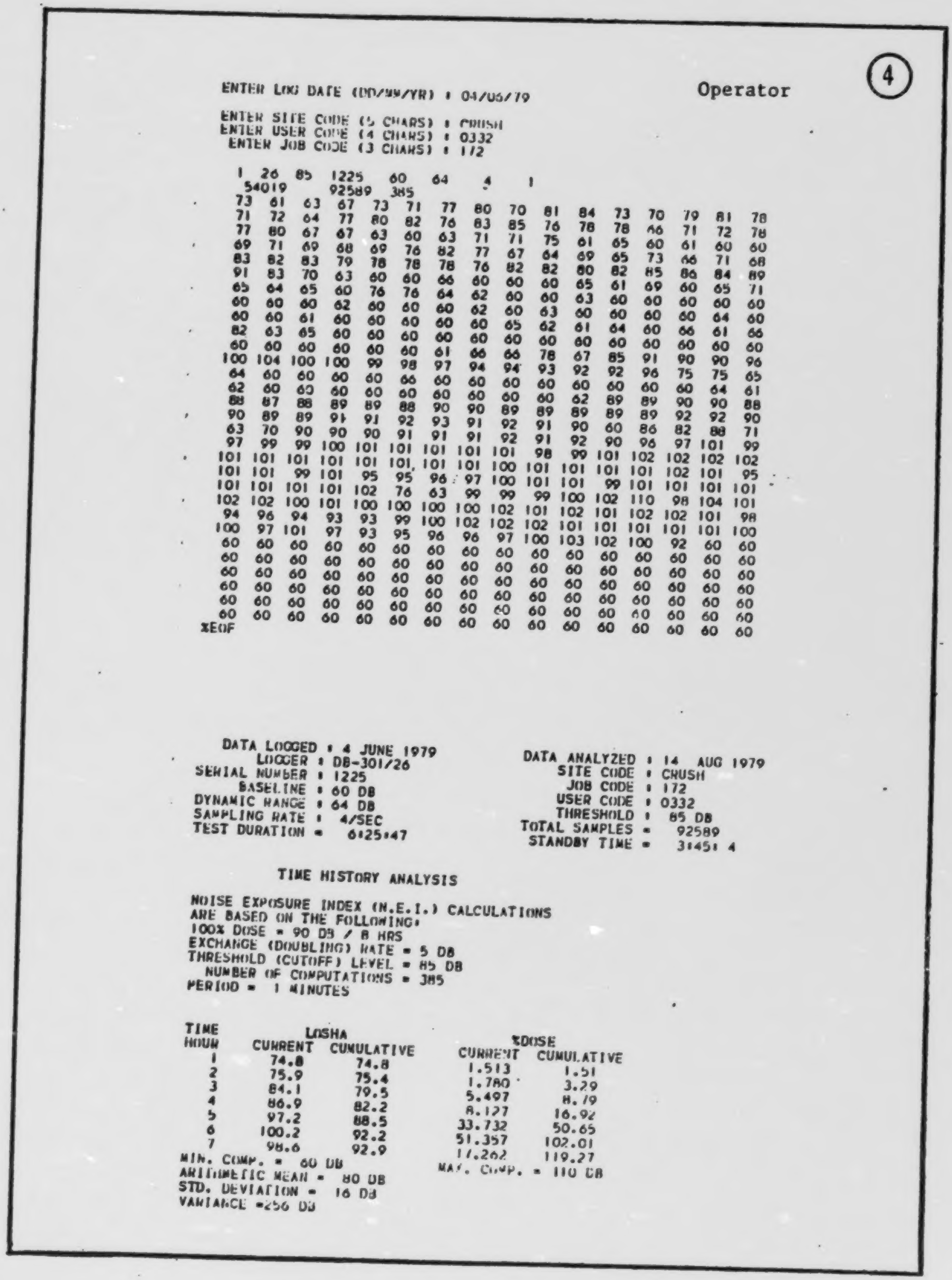
Number of computations = 422

③

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)





④

Operator

```
ENTER LOG DATE (DD/MM/YR) : 04/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0332
 ENTER JOB CODE (3 CHARS) : 172

  1  26  85  1225   60   64    4    1
 54019       92589  385
 73   61   63   67   73   71   77   80   70   81   84   73   70   79   81   78
 71   72   64   77   80   82   76   83   85   76   78   78   66   71   72   78
 77   80   67   67   63   60   63   71   71   75   61   65   60   61   60   60
 69   71   69   68   69   76   82   77   67   64   69   65   73   66   71   68
 83   82   83   79   78   78   78   76   82   82   80   82   85   86   84   89
 91   83   70   63   60   60   66   60   60   60   65   61   69   60   65   71
 65   64   65   60   76   76   64   62   60   60   63   60   60   60   60   60
 60   60   60   62   60   60   60   62   60   63   60   60   60   60   64   60
 60   60   61   60   60   60   60   60   65   62   61   64   60   66   61   66
 82   63   65   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   61   66   66   78   67   85   91   90   90   96
100  104  100  100   99   98   97   94   94   93   92   92   96   75   75   65
 64   60   60   60   60   66   60   60   60   60   60   60   60   60   64   61
 62   60   60   60   60   60   60   60   60   60   62   89   89   90   90   88
 88   87   88   89   89   88   90   90   89   89   89   89   89   92   92   90
 90   89   89   91   91   92   93   91   92   91   90   60   86   82   88   71
 63   70   90   90   90   91   91   91   92   91   92   90   96   97  101   99
 97   99   99  100  101  101  101  101  101   98   99  101  102  102  102  102
101  101  101  101  101  101, 101  101  100  101  101  101  101  102  101   95
101  101   99  101   95   95   96   97  100  101  101   99  101  101  101  101
101  101  101  101  102   76   63   99   99   99  100  102  110   98  104  101
102  102  100  101  100  100  100  100  102  101  102  101  102  102  101   98
 94   96   94   93   93   99  100  102  102  102  101  101  101  101  101  100
100   97  101   97   93   95   96   96   97  100  103  102  100   92   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
 60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
%EOF
```

```
    DATA LOGGED : 4 JUNE 1979              DATA ANALYZED : 14  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : CRUSH
  SERIAL NUMBER : 1225                          JOB CODE : 172
       BASELINE : 60 DB                        USER CODE : 0332
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   92589
  TEST DURATION =   6:25:47                 STANDBY TIME =   3:45: 4

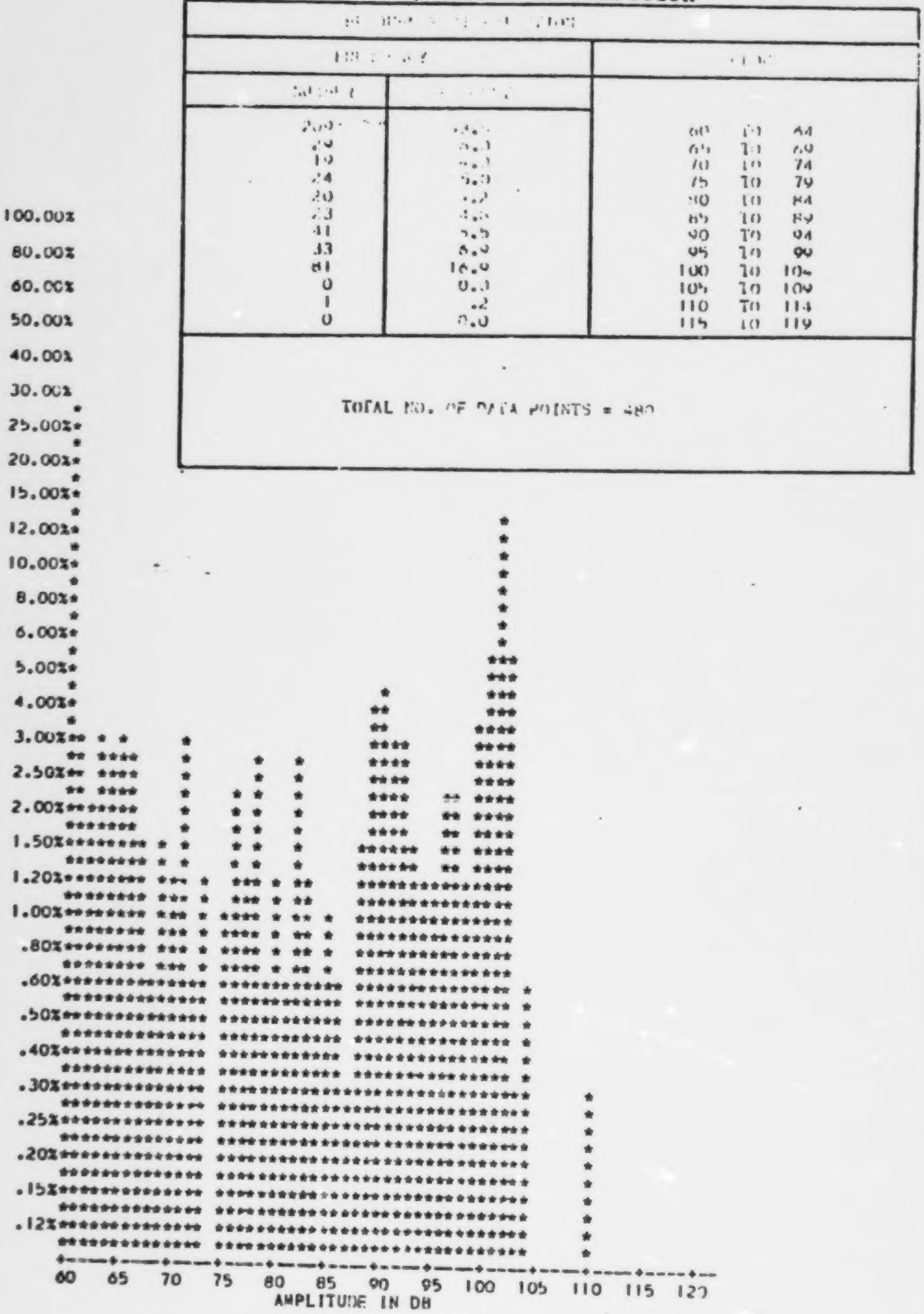
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 385
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR   CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1      74.8       74.8              1.513       1.51
  2      75.9       75.4              1.780       3.29
  3      84.1       79.5              5.497       8.79
  4      86.9       82.2              8.127      16.92
  5      97.2       88.5             33.732      50.65
  6     100.2       92.2             51.357     102.01
  7      98.6       92.9             17.262     119.27
MIN. COMP. =  60 DB                MAX. COMP. = 110 DB
ARITHMETIC MEAN =  80 DB
STD. DEVIATION =  16 DB
VARIANCE =256 DB
```

④

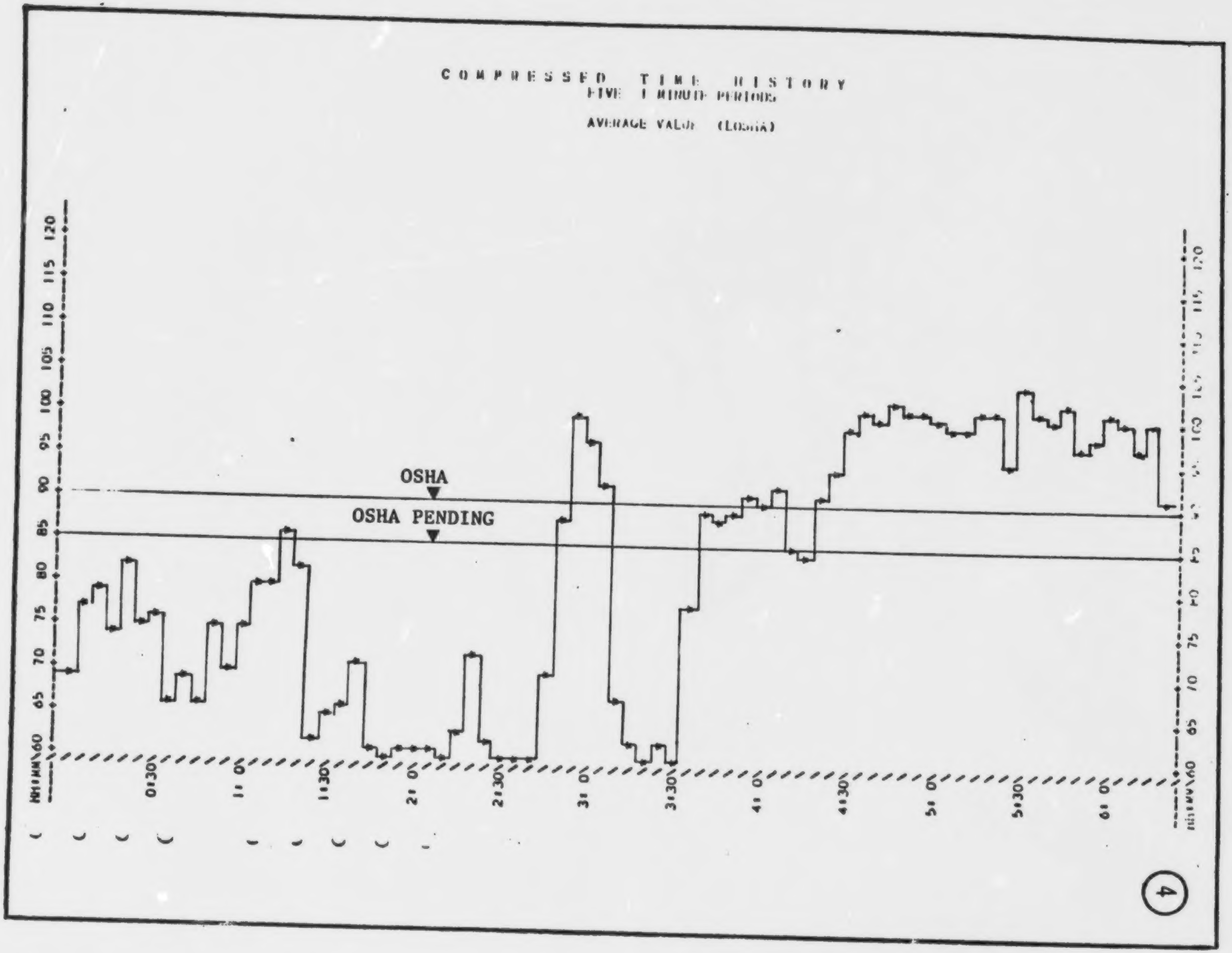
Amplitude Distribution



[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
209	43.5	60 TO 64
29	6.0	65 TO 69
19	4.0	70 TO 74
24	5.0	75 TO 79
20	4.2	80 TO 84
23	4.8	85 TO 89
41	8.5	90 TO 94
33	6.9	95 TO 99
81	16.9	100 TO 104
0	0.0	105 TO 109
1	.2	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 385



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)

⑤

Operator

```
..DB0310B
ENTER LOG DATE (MO/DY/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 0378
 ENTER JOB CODE (3 CHARS) : 172
  1  26  85  1225   60   64    4     1
   7207      101639  423
  70  60  66  70  67  60  68  60  60  68  64  60  64  60  61  61
  61  65  60  60  60  60  67  67  64  67  67  67  92  90  67  88
  82  87  61  65  68  64  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  84  92  91  89  77  87  87  90  75  93  61
  62  86  86  79  77  66  75  80  70  66  61  60  70  62  63  65
  60  60  68  67  72  67  67  75  64  61  60  60  60  60  60  60
  60  63  60  60  60  60  60  68  67  65  63  72  64  62  60  60
  61  60  60  64  63  72  70  65  63  65  61  62  66  65  60  61
  60  68  62  60  65  72  60  60  72  63  65  63  69  67  76  79
  79 103  84  85  86  86  80  70  78  73  67  61  62  60  60  63
  60  62  64  60  60  66  69  82  87  87  85  79  83  77  83  75
  82  86  78  85  61  86  75  66  71  74  71  60  60  63  61  63
  85  71  62  61  60  60  60  62  60  60  60  60  60  60  63  65
  60  60  60  67  60  68  78  85  63  62  60  60  69  63  67  63
  88  91  91  88  80  80  89  89  86  75  73  82  81  79  78  80
  86  86  83  80  84  86  85  85  85  86  85  88  82  69  76  62
  64  60  67  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  65  69  68  76  69  93 100 103 102  98  86  90  88  94
 105 104 102 105 102 101 102 102 103 103 104 103 100  99  98 102
 102 102 102 102 102 104 101 103 105 105 103 102 103 103 103 103
 103 103 102 102 103 100  94  92  93  97  98  97 101  98 100 103
 103 103 103 102 103 103 102 100 102 102  97 104  92  93 101 101
 101 100 103 103 103 103 100  85  92  94  94  92  91  84  88  86
  80  86  85  86  85  85  88  92  93  99  95  96  99  97 101 104
 103 102 102  88  87  88  89  91  78  98  91 101 102 103 103 103
 102 101 100  97  98 103 105 101 102 100  96  97  97  97  97  97
 101  98  96  96  99  99  97  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 5 JUNE 1979          DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                SITE CODE : CRUSH
 SERIAL NUMBER : 1225                      JOB CODE : 172
      BASELINE : 60 DB                    USER CODE : 0378
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  101639
 TEST DURATION =   7: 3:29             STANDBY TIME =   0:30: 1

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 423
PERIOD =  1 MINUTES

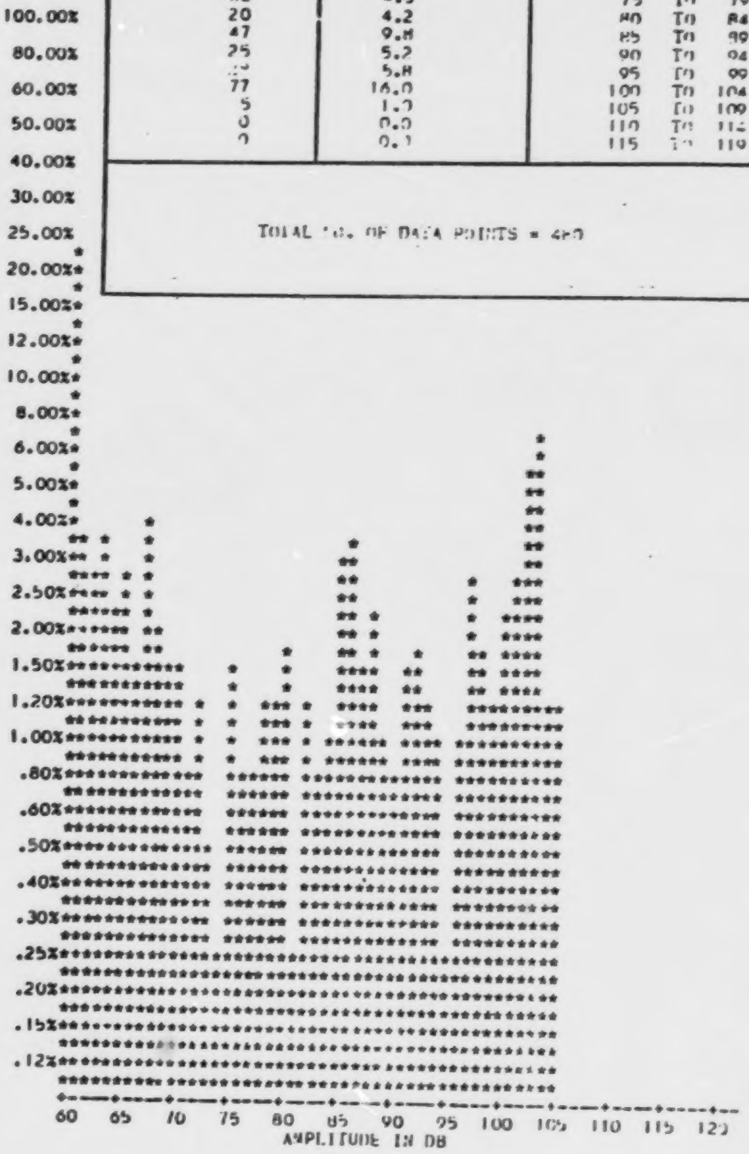
TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      77.5       77.5            2.198       2.20
   2      73.6       75.8            1.279       3.48
   3      80.2       77.5            3.197       6.67
   4      77.8       77.6            2.315       8.99
   5      94.0       84.9           21.896      30.89
   6     101.3       91.4           60.233      91.12
   7      97.5       92.7           35.297     126.42
   8      98.4       92.7            2.001     128.42
MIN. COMP. =  60 DB               MAX. COMP. = 105 DB
ARITHMETIC MEAN =  76 DB
STD. DEVIATION =  16 DB
VARIANCE =256 DB
```

⑤

Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PERCENT	
192	40.0	60 TO 64
47	9.8	65 TO 69
17	3.5	70 TO 74
22	4.6	75 TO 79
20	4.2	80 TO 84
47	9.8	85 TO 89
25	5.2	90 TO 94
[illegible]	5.8	95 TO 99
77	16.0	100 TO 104
5	1.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

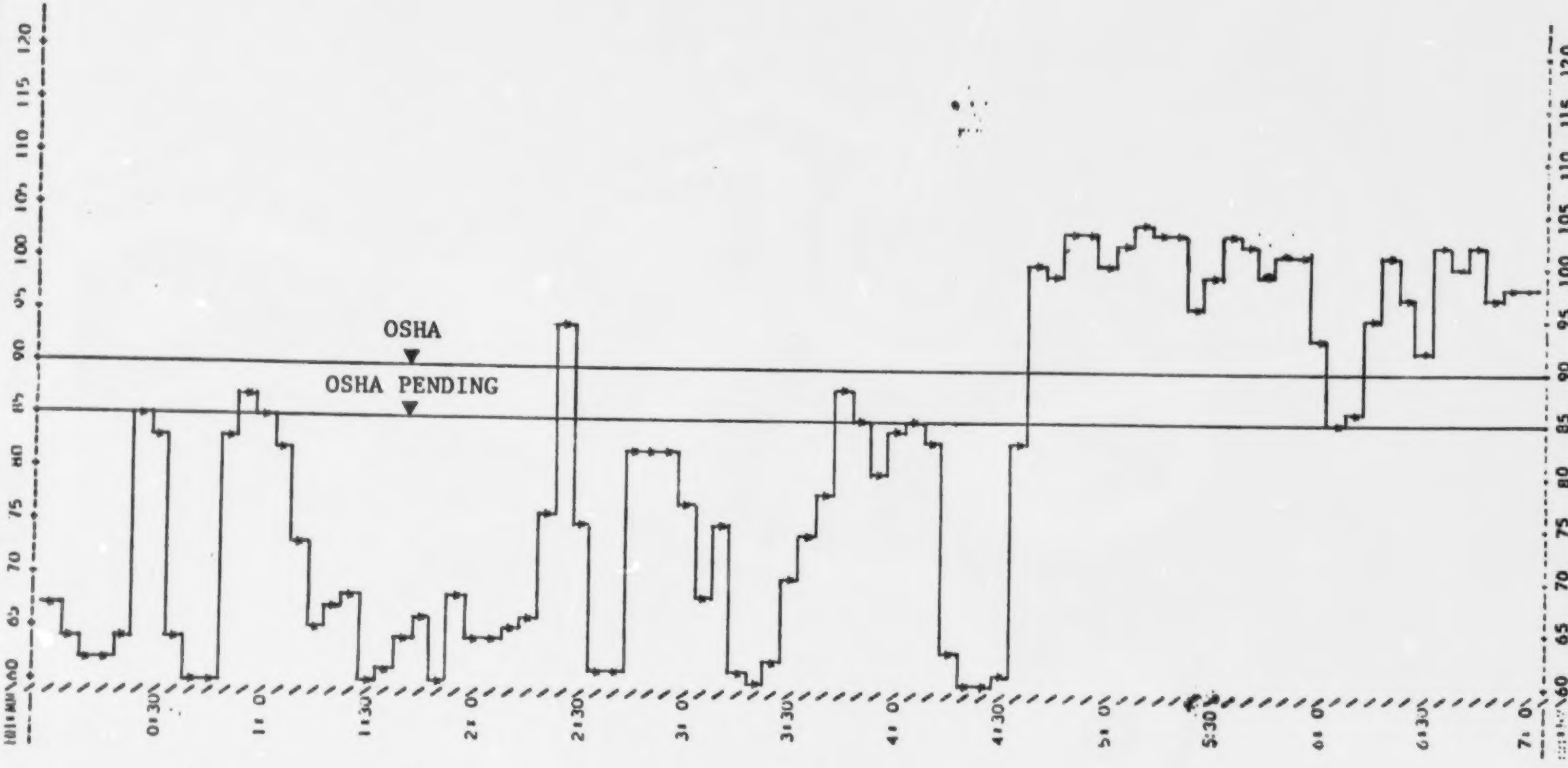


Number of computations = 423

⑤

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑥

Operator

```
ENTER LOG DATE (DD/MM/YR) : 31/05/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 4546
 ENTER JOB CODE (3 CHARS) : 172
  1  26  85  1219   60   64    4    1
 231988     110588   460
 69  74  93  89  90  95  95  96  95  94  93  91  83  93  95  93
 83  79  77  88  78  80  81  82  77  75  80  79  80  76  75  74
 71  73  74  75  92  94  94  95  94  96  95  94  94  91  75  72
 68  93  93  93  93  93  92  93  93  92  80  84  92  93  90  67
 60  91  92  92  86  75  84  90  93  93  93  93  77  86 100  96
 96  95  96  93  63  80  60  82  92  94  93  92  93  93  87  85
 93  88  64  66  60  67  61  60  60  60  60  60  60  60  60  60
 60  62  60  60  60  60  60  60  60  60  60  60  60  60  60  82
 91  91  91  91  92  88  82  90  91  90  90  89  90  89  90  92
 90  87  78  82  88  91  89  71  69  84  91  91  91  90  90  90
 90  91  90  90  90  90  64  88  90  90  90  86  77  80  76  88
 89  87  80  86  89  90  90  85  89  90  90  90  90  90  90  90
 80  84  89  90  90  90  90  90  90  90  90  90  88  90  91  90
 90  90  91  90  90  90  91  91  89  88  90  91  90  91  92  91
 90  90  90  91  91  92  89  83  89  90  91  91  92  92  92  80
 85  90  90  90  91  90  90  90  68  85  82  78  70  69  81  87
 89  68  79  79  86  90  90  92  83  89  91  92  93  91  80  76
 81  72  66  62  60  60  61  60  60  60  64  60  60  60  60  60
 60  60  60  60  62  62  60  74  61  75  60  60  67  67 .75  64
 76  65  66  60  60  75  63  68  77  76  78  76  74  77  80  66
 85  91  90  90  89  88  73  86  88  89  88  89  88  87  90  90
 93  93  92  92  90  89  89  92  91  87  87  90  91  92  92  90
 80  79  86  92  92  92  92  93  94  93  90  91  91  91  93  93
 94  93  92  94  94  94  93  92  90  92  92  92  93  93  93  89
 70  60  60  60  60  64  60  60  60  60  60  88  93  90  90  94
 93  90  92  93  93  93  93  90  92  93  95  94  94  93  93  93
 93  92  93  91  87  92  92  94  94  95  93  91  92  93  92  93
 92  92  95  94  94  92  93  93  95  94  94  92  93  93  93  93
 94  94  94  94  94  93  94  95  93  71  68  65  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
    DATA LOGGED :31  MAY 1979               DATA ANALYZED : 13  AUG 1979
         LOGGER : DB-301/26                      SITE CODE : CRUSH
  SERIAL NUMBER : 1219                            JOB CODE : 172
       BASELINE : 60 DB                          USER CODE : 4546
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  110588
  TEST DURATION =    7:40:47                  STANDBY TIME =  16: 6:37

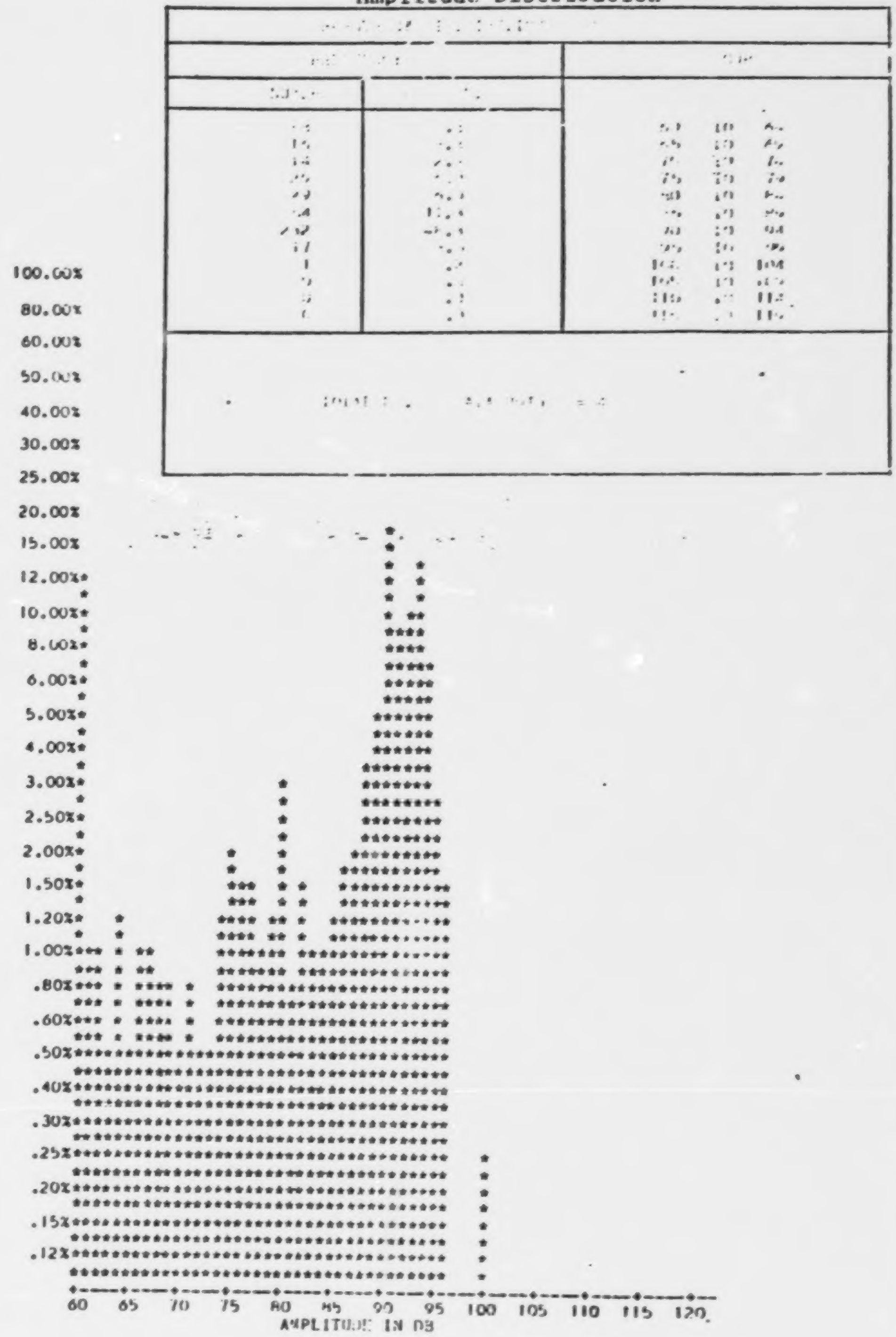
          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 460
 PERIOD =  1 MINUTES

 TIME           LOSHA                          %DOSE
 HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1      89.7      89.7             12.058      12.06
    2      87.9      88.9              9.315      21.37
    3      87.6      88.5              8.915      30.29
    4      89.9      88.8             12.247      42.54
    5      83.3      88.0              4.905      47.44
    6      87.1      87.9              8.399      55.84
    7      91.0      88.4             14.428      70.27
    8      92.7      88.9             12.100      82.37
 MIN. COMP. =  60 DB                MAX. COMP. = 100 DB
 ARITHMETIC MEAN =  83 DB
 STD. DEVIATION =  12 DB
 VARIANCE =144 DB
```

⑥

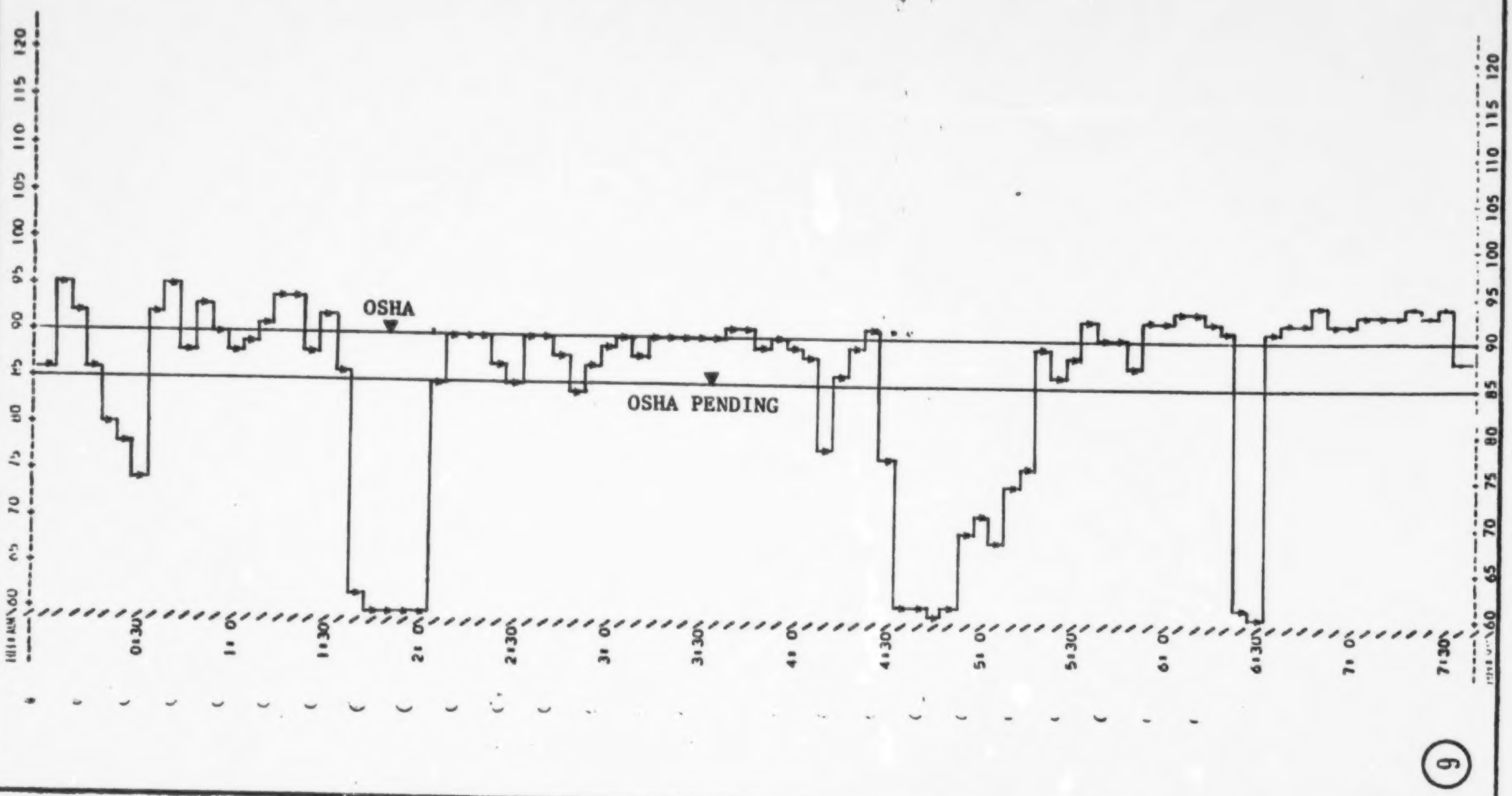
Amplitude Distribution



Number of computations = 460

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑦

Operator

```
ENTER LOG DATE (DD/MM/YR) : 04/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0121
 ENTER JOB CODE (3 CHARS) : 172

 1  26  85  1222   60   64    4    1
  56715     92707  386
 77  60  60  60  63  67  63  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  61  60  60  60  60  62  66  60  60
 60  60  60  68  61  62  60  66  74  60  71  63  68  82  77  62
 67  61  62  64  60  64  65  60  75  64  65  60  67  64  70  79
 72  68  75  76  70  61  71  63  60  66  61  67  70  66  70  71
 72  75  69  70  65  66  66  67  67  68  67  68  63  69  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  61  60  60  60  66  67  72  60  60
 64  64  64  98  88  78  61  74  60  66  75  70  66  67  66  63
 76  75  63  74  92  89  91  91  91  90  90  88  84  80  80  76
 74  80  83  94  81  70  60  60  78  67  82  61  62  65  67  70
 76  68  66  73  62  63  60  71  60  60  72  71  60  63  81  71
 67  71  60  69  77  87  91  86  88  90  92  90  91  87  88  91
 90  90  90  87  87  88  88  89  90  89  88  89  90  91  90  90
 90  90  78  66  60  60  72  66  60  88  92  92  93  93  92  93
 94  93  95  93  94  93  93  94  93  92  89  83  92  93  92  83
 92  93  93  94  93  92  93  93  93  94  93  93  94  89  92  93
 95  92  93  94  95  94  92  95  95  90  93  93  74  60  60  60
 60  60  60  60  60  60  60  60  60  62  86  65  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  70  60  60  60  60  60  87  92  94  93  94
 93  92  94  93  92  94  94  91  93  93  90  93  94  93  93  93
 93  93  94  94  93  92  92  93  93  94  95  95  88  92  93  93
 93  94  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED : 4 JUNE 1979               DATA ANALYZED : 14  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : CRUSH
 SERIAL NUMBER : 1222                           JOB CODE : 172
      BASELINE : 60 Db                         USER CODE : 0121
 DYNAMIC RANGE : 64 Db                         THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =   92707
 TEST DURATION =   6:26:16                  STANDBY TIME =   3:56:18

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 386
PERIOD =  1 MINUTES

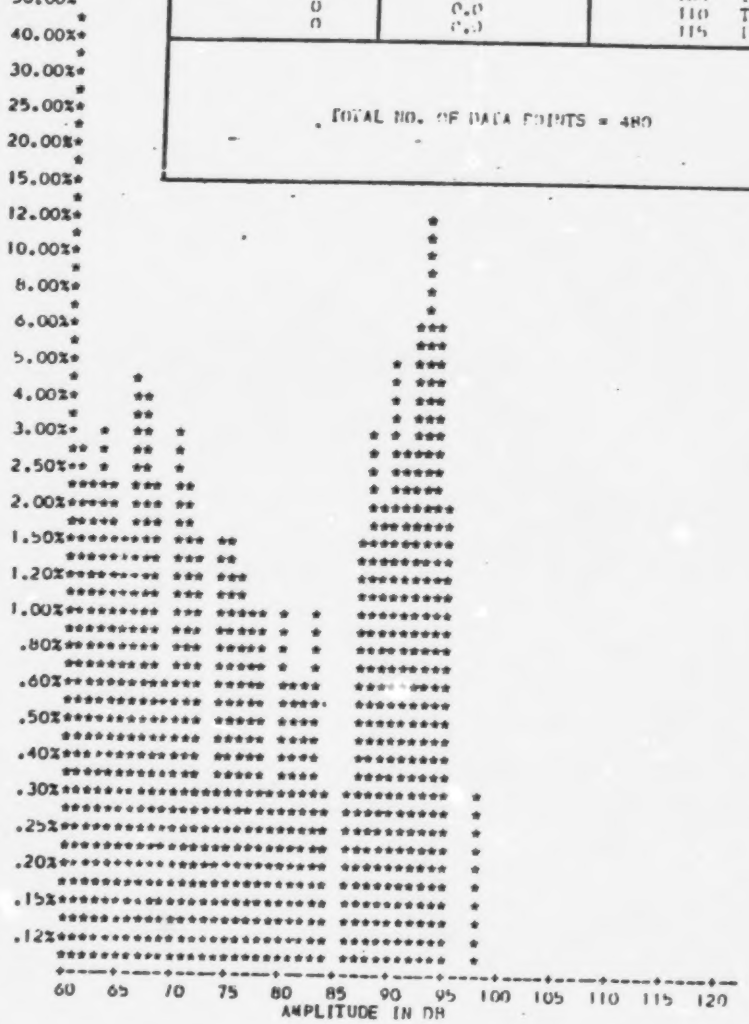
TIME           LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
   1      65.8       65.8               .434        .43
   2      66.7       66.3               .498        .93
   3      81.1       74.8              3.626       4.56
 ' 4      84.3       78.6              5.662      10.23
   5      91.7       83.7             15.924      26.15
   6      82.2       83.5              4.265      30.42
   7      93.0       84.7              8.259      38.68
MIN. COMP. =  60 DB                  MAX. COMP. =  98 DB
ARITHMETIC MEAN =  73 DB
STD. DEVIATION =  14 DB
VARIANCE =196 DB
```

⑦

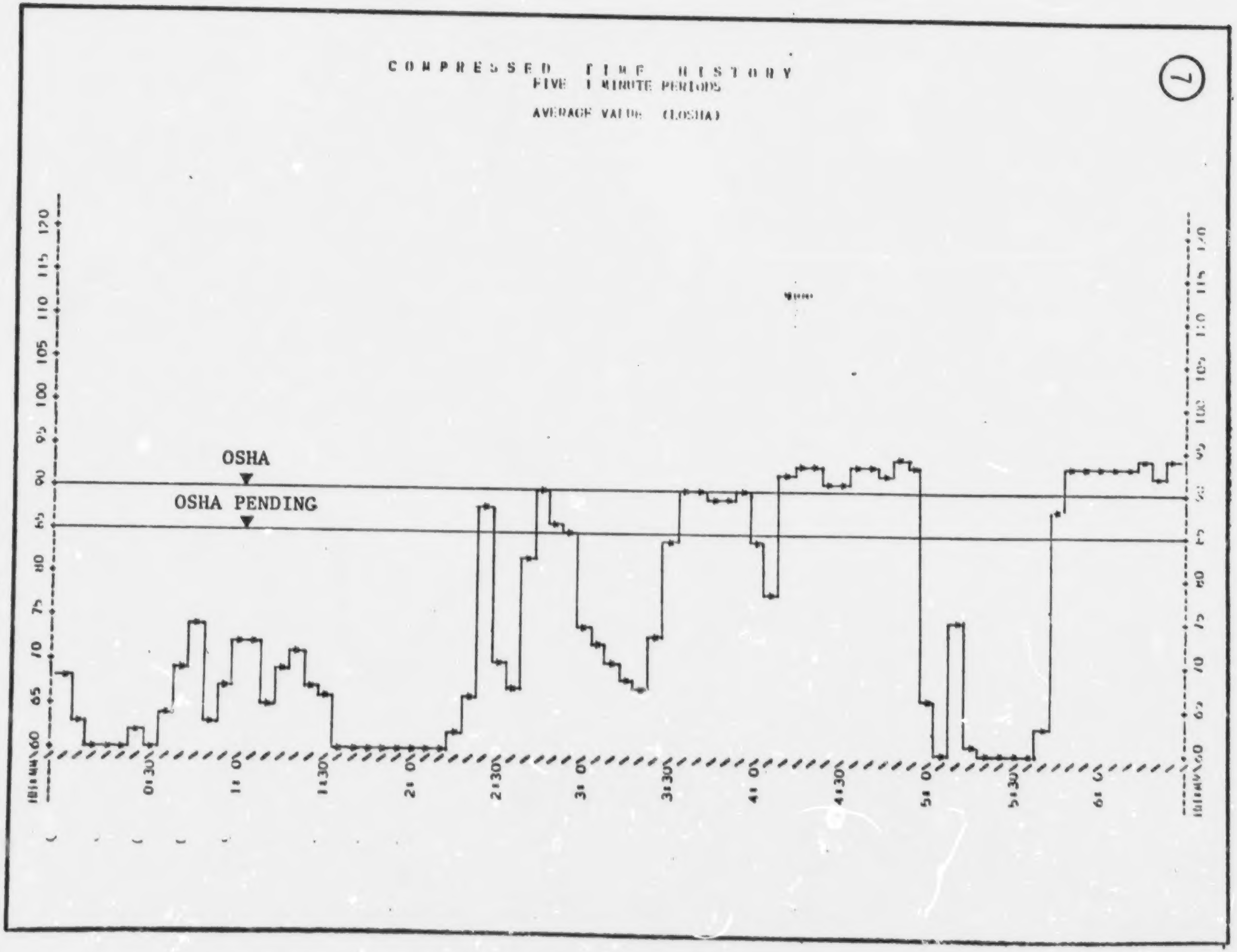
Amplitude Distribution

[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	60 TO 64
39	8.1	65 TO 69
27	5.6	70 TO 74
16	3.3	75 TO 79
11	2.3	80 TO 84
22	4.6	85 TO 89
100	20.8	90 TO 94
7	1.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 386



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)

⑧

Operator

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 0294
 ENTER JOB CODE (3 CHARS) : 172
  1  26  85  1219   60   64    4    1
   17306       98361  409
 60  60  71  60  60  61  63  60  60  60  60  60  60  60  70  63
 69  75  70  60  70  60  60  64  61  60  60  61  60  60  63  62
 60  79  85  61  60  60  60  60  60  60  60  60  60  60  60  60
 62  66  65  60  61  61  60  83  88  60  63  60  60  61  60  60
 60  63  60  60  60  62  63  63  64  60  60  60  60  60  64  60
 61  66  60  66  61  64  60  60  96  96 104 105  96  95  62  70
 64  63  60  60  61  60  60  60  60  60  60  60  60  60  60  60
 67  66  60  63  60  60  60  60  60  60  60  60  63  60  60  62
 60  60  60  60  60  60  60  64  83  71  85  96 104 104 103 103
102 101 102  95  75 100 102 103 102 103 103 102 102 100  98  95
 77  76  62  72  67  75  68  74  66  67  62  60  72  60  71  60
 60  60  60  65  64  64  73  82  66  64  76  69  60  60  74  60
 60  68  61  73  65  60  64  65  61  68  62  62  69  71  65  68
 72  80  85  64  71  60  60  70  64  71  63  87  88  88  87  74
 85  76  66  78  78  67  75  87  92  90  87  85  87  94  87  81
 83  80  83  83  84  83  86  81  78  62  70  83  61  67  63  66
 65  71  65  67  67  73  76  75  73  69  70  81  89  84  93  92
 95  94  96  96  96  95  93  93  92  86  80  80  87  83  82  83
 99 103 104 100 100  92  92  88  86  93  95  96  94  93  95  93
 92  94  78  73  83  88  92  93  91  84  64  66  62  71  74  70
 63  60  62  60  85  91  90  88  92  89  60  60  92  93  94  94
 92  88  74  79  79  71  75  76  78  98 100  96  97  97  96  91
 68  61  82  76  74  66  61  68  64  67  70  66  69  67  73  83
 82  66  71  83  84  89  82  93  93  94  94  95  94  90  86  94
 93  96  94  92  94  95  94  95  94  90  88  93  91  60  60  83
 84  73  88  90  90  90  91  90  91  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED : 5 JUNE 1979                 DATA ANALYZED : 15  AUG 1979
         LOGGER : DB-301/26                       SITE CODE : CRUSH
  SERIAL NUMBER : 1219                             JOB CODE : 172
       BASELINE : 60 DB                           USER CODE : 0294
  DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =   98361
  TEST DURATION =    6:49:50                   STANDBY TIME =    1:12: 6

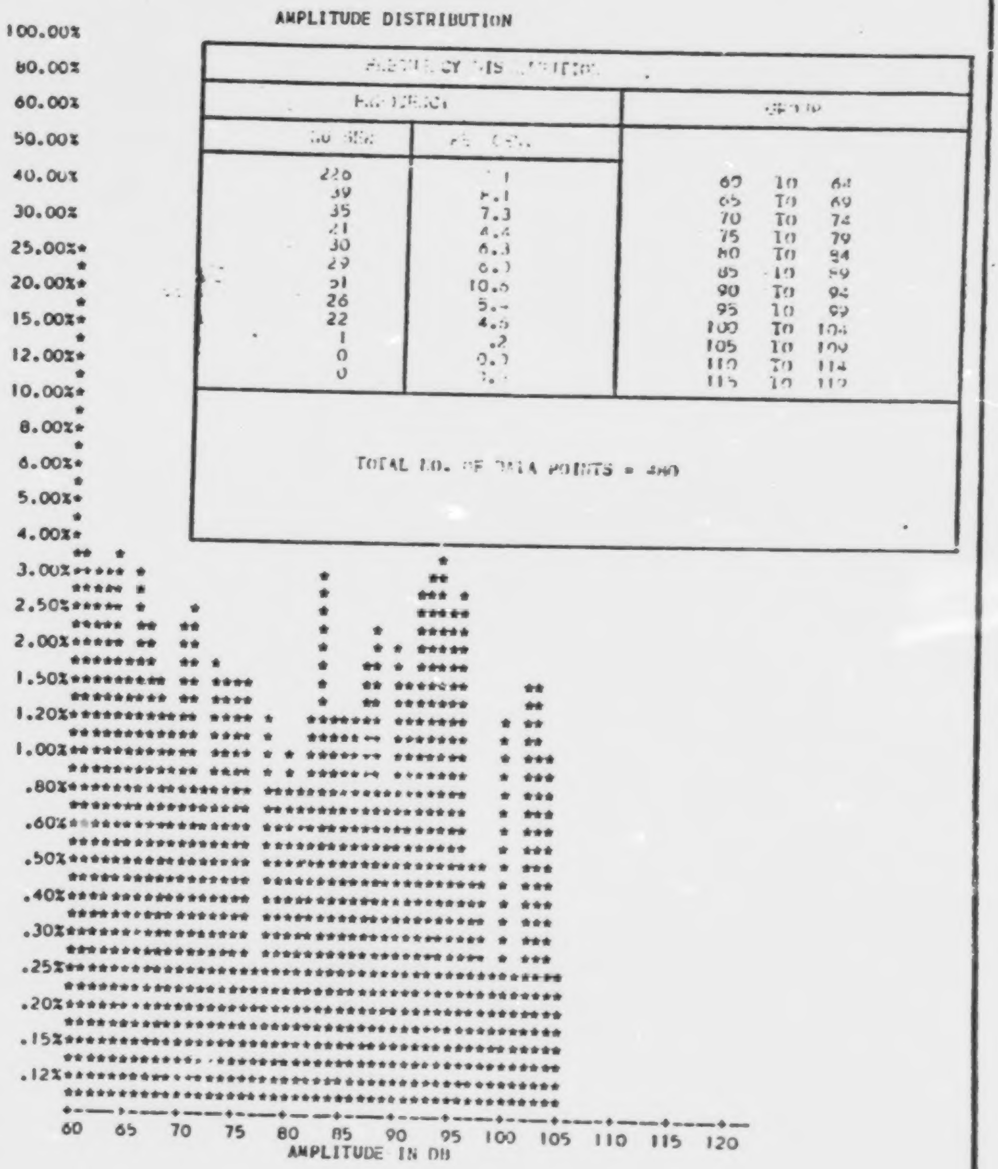
         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 409
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      69.0        69.0            .678        .68
   2      83.7        79.6           5.196       5.87
   3      93.7        87.6          20.895      26.77
   4      79.7        86.3           2.977      29.75
   5      90.4        87.3          13.157      42.90
   6      88.7        87.5          10.411      53.31
   7      89.4        87.8           9.432      62.75
MIN. COMP. =  60 DB                MAX. COMP. = 105 DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =  14 DB
VARIANCE =196 DB
```

⑧

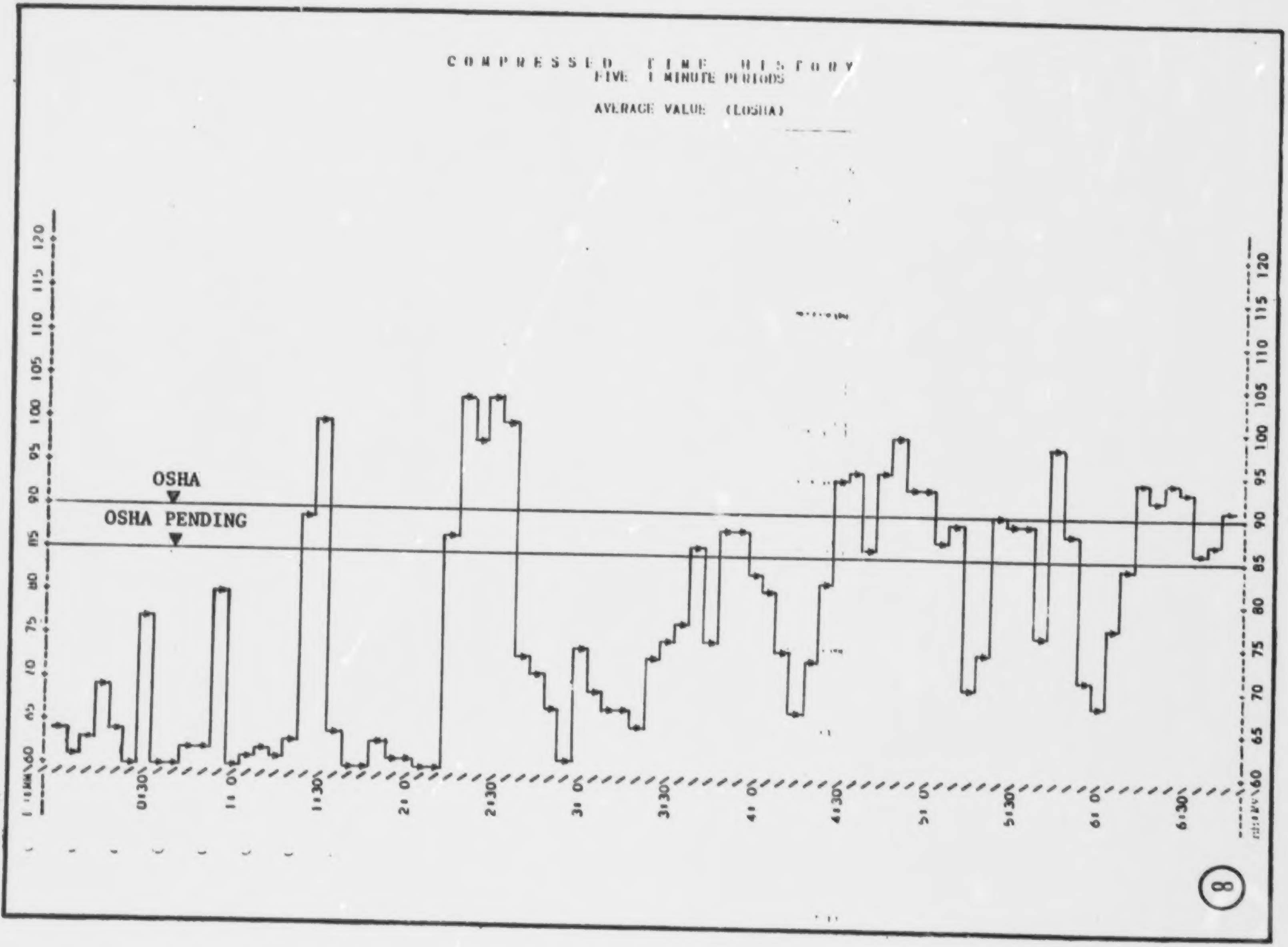
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NO. OBS	% OBS.	
226	[illegible]	60 TO 64
39	8.1	65 TO 69
35	7.3	70 TO 74
21	4.4	75 TO 79
30	6.3	80 TO 84
29	6.0	85 TO 89
51	10.6	90 TO 94
26	5.4	95 TO 99
22	4.6	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 409



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)

⑨

Operator

```
           LOCIP/FORT 42/037
..DB65108

ENTER LOG DATE (MM/DD/YR) : 04/05/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0133
 ENTER JOB CODE (3 CHARS) : 172
 :1  26  85  1213   60   64    4    1
   30831     106190   442
  76   60   62   65   60   61   60   60   62   60   60   60   60   60   60   60
  60   60   60   60   61   60   60   60   60   63   63   63   69   61   63   61
  69   71   63   62   73   65   60   60   60   60   60   60   60   69   69   64
  60   60   60   60   60   60   60   62   60   64   60   60   60   62   64   68
  60   60   60   61   60   60   62   70   61   60   60   60   75   77   80   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   75   65   85  100  102   97   97   98   97   96  100
  97   97   98  101   97   76  101   99  103  103   90   60   68   60   87   96
 104  103  102  102  101  102  102  102  102  102  102   92   60   94   80   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   67   83   88   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   99  103  104  102   93   89   87
  60   60   85   94   94   60   60   60   60   60   60   60   60   63   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   93   93   94   94   93   94   94   91   91   90
  95   99  100   98  100   99   99   99  101  101   98   99   99   98   99   98
  98   98   97   97   87   60   75   75   73  100  100   98   99  101  101  101
  95   99   79   69   67   60   60   67   79   79   80   81   79   77   81   81
  80   81   83   83   72   67   71   81   79   69   69   69   62   60   64   61
  60   66   66   63   65   90   88   82   90   80   77   93   89   93   96   96
  94   97   97   95   93   91   60   81   76   60   60   60   60   60   66   76
  84   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   75   60   60   60   60   60   60   60   60   60   60   60   60   63
  62   74   90   88   60   86   62   60   64   72   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
%EOF



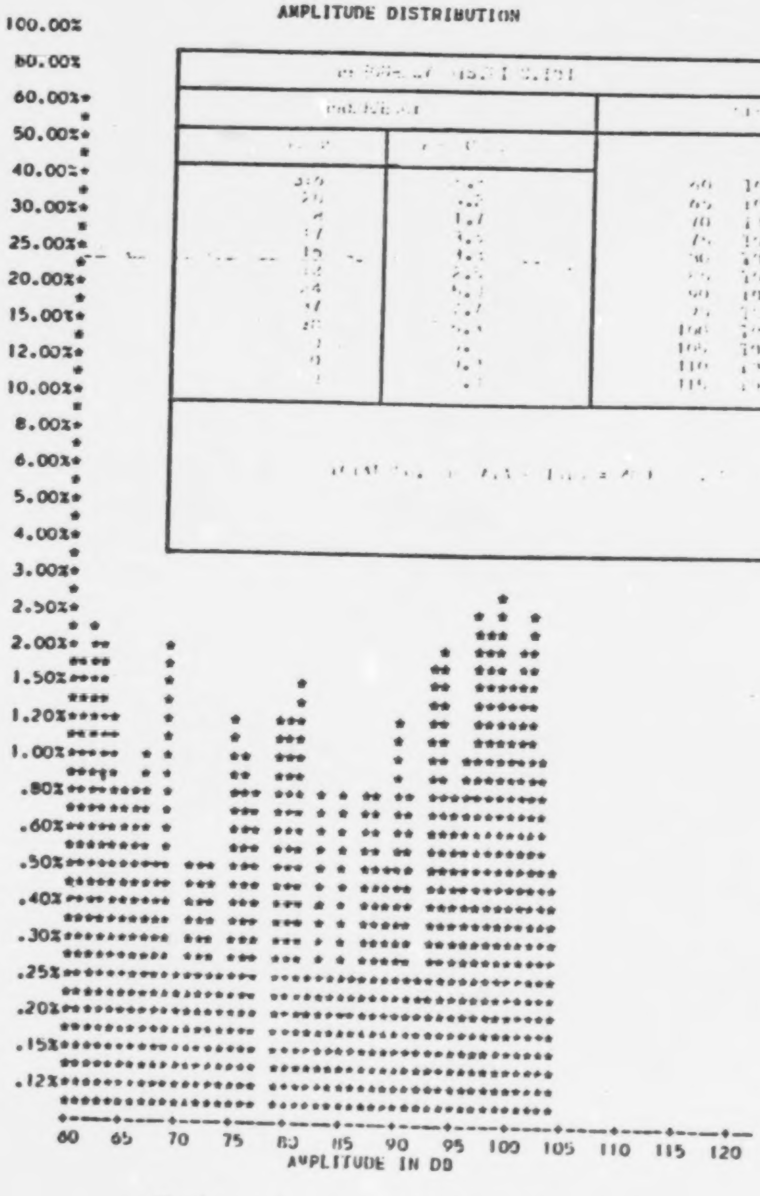

   DATA LOGGED : 4 JUNE 1979             DATA ANALYZED : 14  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : CRUSH
SERIAL NUMBER : 1213                          JOB CODE : 172
      BASELINE : 60 DB                       USER CODE : 0133
DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  106190
TEST DURATION =   7:22:27                 STANDBY TIME =   2: 8:27

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 65 DB
  NUMBER OF COMPUTATIONS = 442
PERIOD =  1 MINUTES

TIME          LOSHA                         %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      63.3       63.3             .308         .31
   2      63.6       63.4             .320         .63
   3      93.1       85.4           19.086       19.71
   4      87.3       85.9            8.643       28.36
   5      86.9       86.1            8.184       36.54
   6      94.4       88.3           23.117       59.66
   7      83.9       87.9            5.382       65.04
   8      75.2       87.6             .587       65.63
MIN. COMP. =  60 DB               MAX. COMP. = 104 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =  15 DB
VARIANCE =225 DB
```

⑨

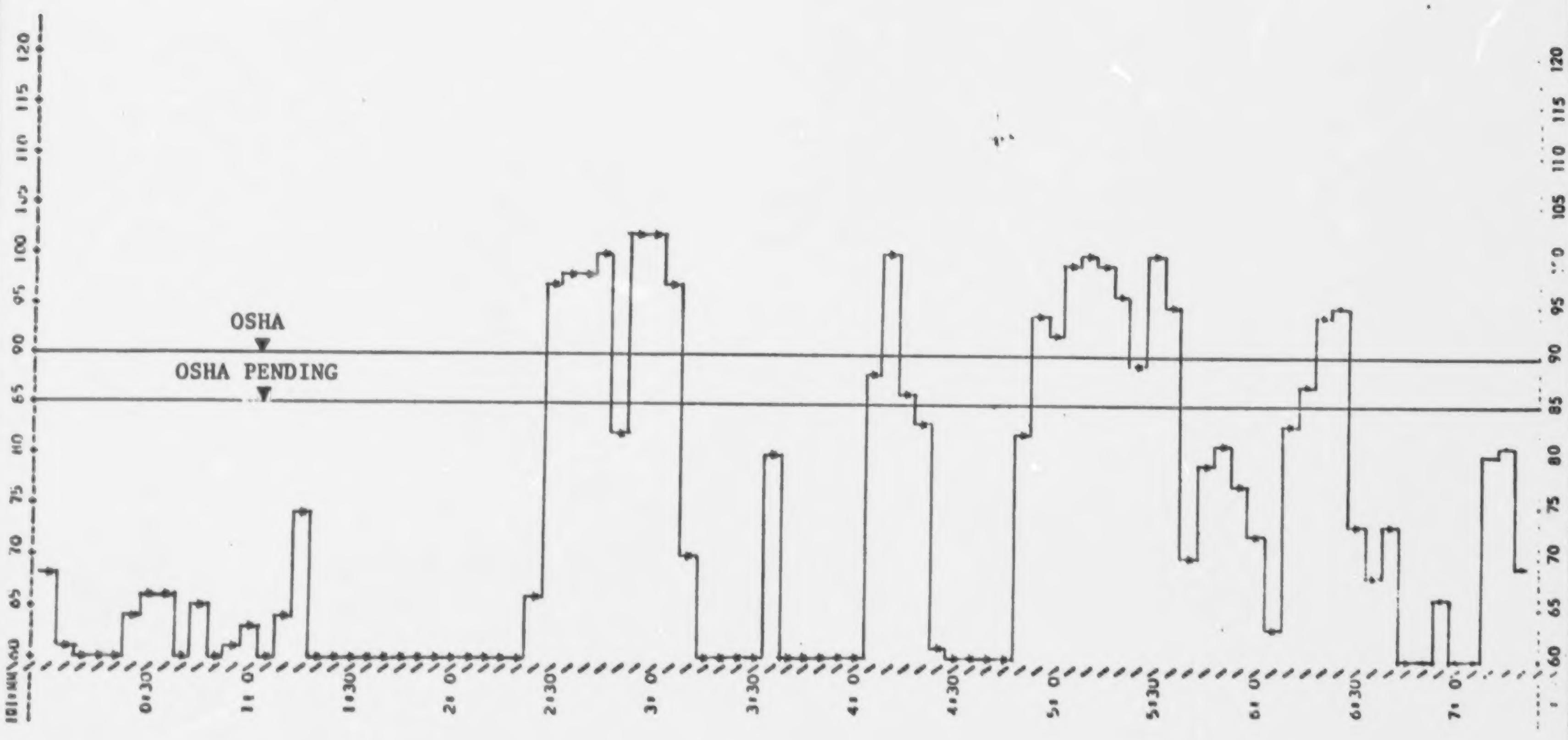


Number of computations = 442

⑥

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



Mechanic ⑩

```
. ENTER LOG DATE (DD/MM/YR) : 31/05/79

ENTER SITE CODE (5 CHARS) : CRUSH
. ENTER USER CODE (4 CHARS) : 0700
 ENTER JOB CODE (3 CHARS) : 143
  I   26  H5  1212   60    64  .  4    I
  247269     100472  418
  79  67  62  60  92  90  68  82  76  64  77  60  63  70  76  8H
  84  86  60  60  60  65  60  64  60  60  60  60  60  6H  65  65
  68  74  70  67  69  70  60  60  60  63  93  92  93  63  67  67
  82  63  92  91  91  92  92  92  92  91  91  91  91  91  91  90
  90  90  90  92  92  92  92  92  92  92  63  81  93  92  92  93
  92  92  92  92  92  92  92  92  91  92  92  91  91  92  92  79
  85  87  92  93  92  92  92  92  92  92  92  92  92  93  92  92
  92  91  90  86  89  90  90  91  84  60  60  60  60  60  60  60
  60  60  60  60  60  88  60  60  67  64  60  61  64  63  62  61
  60  60  64  61  60  60  61  60  65  60  61  60  60  60  60  60
  61  60  65  60  60  61  72  67  79  68  60  60  60  61  83  80
  60  73  87  75  60  74  70  67  60  60  63  60  60  67  61  75
  78  75  72  76  65  60  61  69  75  70  87  89  92  98  91  92
  98  95  94  94  95  87  82  88  90  84  60  60  60  60  60  60
  60  60  60  60. 60  60  62  86  89  88  60  63  60  60  60  60
  60  60  60  60  60  80  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  67  67  85  95  93  94  97  95  90  99  90
  67  97  91 100  99  99  99  98  99  99  98  98  98  98  98  93
  92  94  96  96  91  60  60  79  76  61  65  74  60  60  65  60
  60  60  60  60  60  60  60  60  60  60  61  63  65  60  60  60
  60  60  63  65  67  60  60  60  60  61  60  60  60  60  60  60
  60  60  60  68  78  60  60  60  64  62  62  79  60  71  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  66  60  62  60
  60  61  60  60  60  60  60  60  60  60  60  61  60  60  60  60
  60  69  60  63  82  93  84  60  60  60  60  60  60  60  82  60
  60  60  60  61  76  90  92  88  60  60  60  60  60  60  60  60
  63  79  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED :31  MAY 1979                  DATA ANALYZED : 13  AUG 1979
         LOGGER : DB-301/26                          SITE CODE : CRUSH
  SERIAL NUMBER : 1212                                JOB CODE : 143
       BASELINE : 60 DB                              USER CODE : 0700
  DYNAMIC RANGE : 64 DB                              THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                         TOTAL SAMPLES =  100472
  TEST DURATION =   6:53:38                       STANDBY TIME =  17:10:17

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB.
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 418
 PERIOD =  1 MINUTES

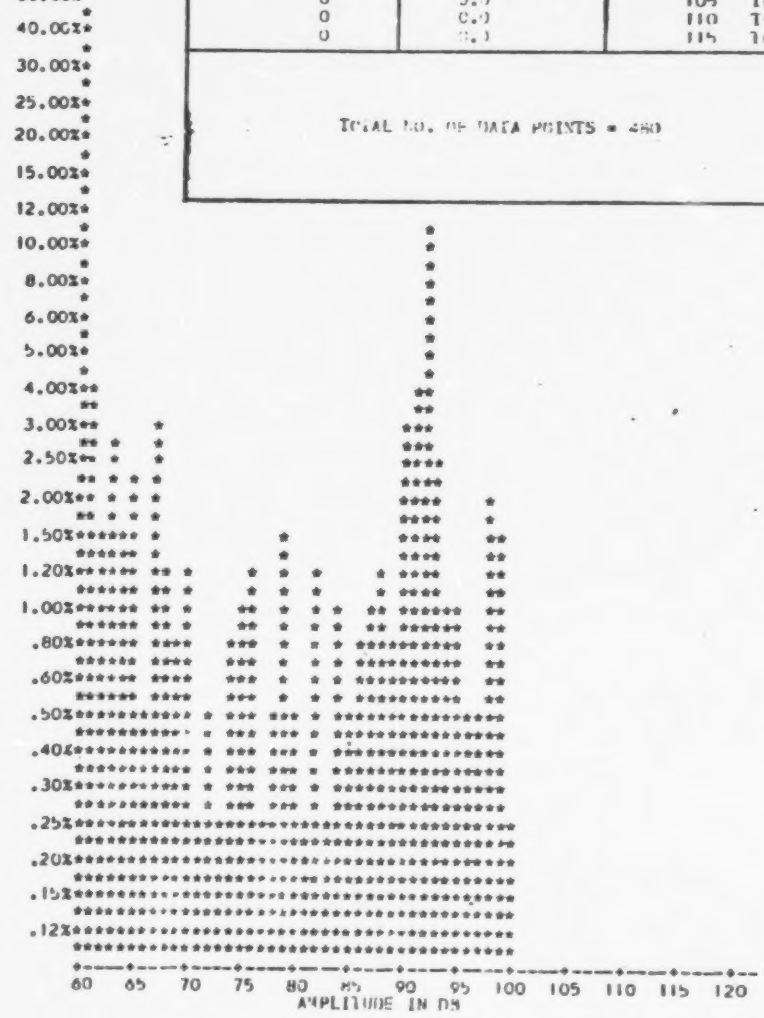
 TIME          LOSHA                             %DOSE
 HOUR     CURRENT  CUMULATIVE               CURRENT  CUMULATIVE
   1        83.6       83.6                  5.154       5.15
   2        91.1       88.3                 14.635      19.79
   3        70.4       85.7                   .930      20.62
   4        83.9       85.3                  5.307      26.02
   5        91.2       86.9                 14.755      40.77
   6        63.5       85.7                   .316      41.09
   7        74.6       84.8                  1.438      42.52
 MIN. COMP. =  60 DB                      MAX. COMP. = 100 DB
 ARITHMETIC MEAN =  72 DB
 STD. DEVIATION =  14 DB
 VARIANCE =196 DB
```

⑩

Amplitude Distribution

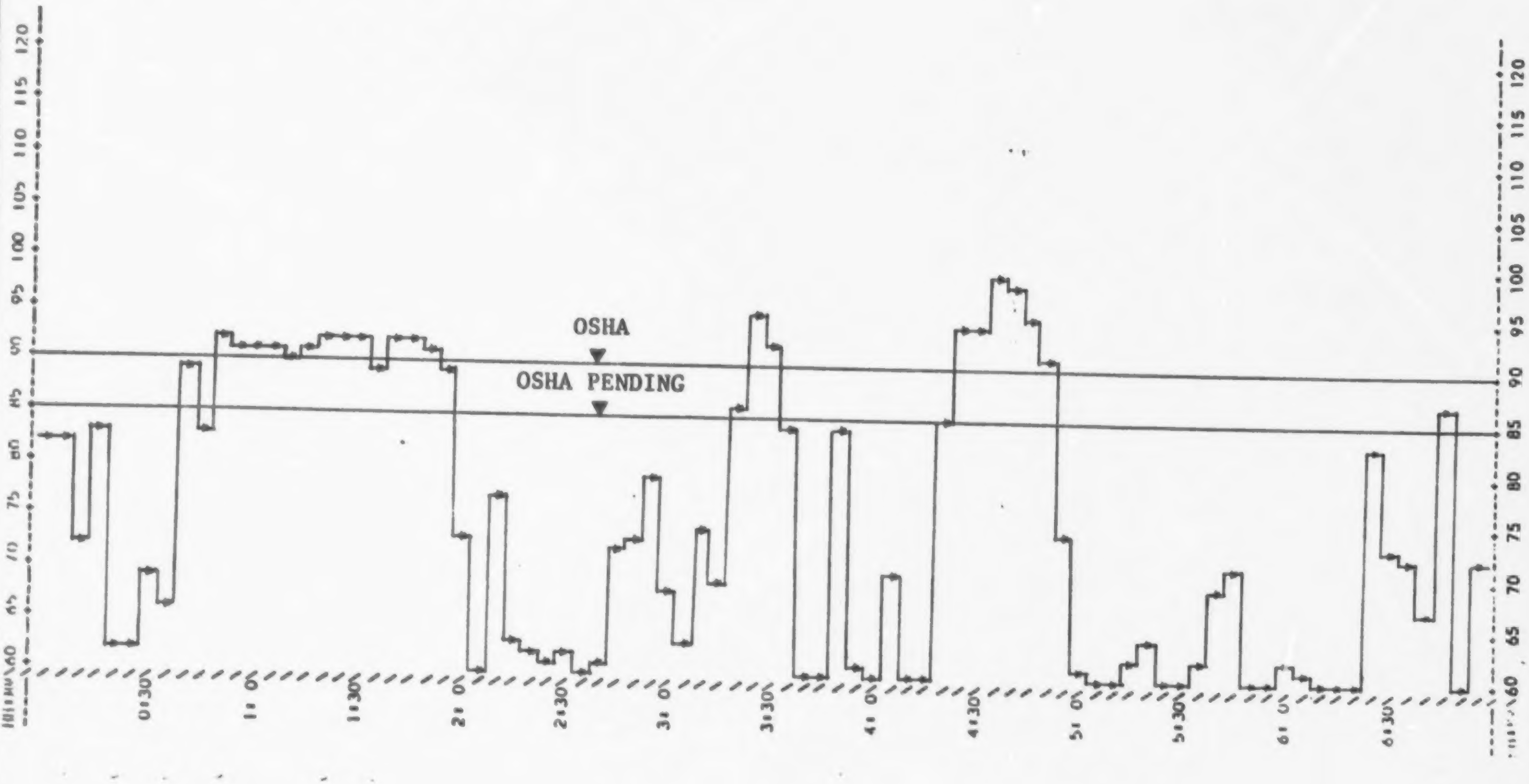
[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
279	58.1	60 TO 64
31	6.5	65 TO 69
12	2.5	70 TO 74
18	3.8	75 TO 79
13	2.7	80 TO 84
17	3.5	85 TO 89
87	18.1	90 TO 94
22	4.6	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 418

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑩

⑪

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 31/05/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 0H07
 ENTER JOB CODE (3 CHARS) : 001

 1  26  85  1218   60   64    4    1
 245661     100315  417
 79  80  92  65  61  63  63  72  71  61  61  78  78  60  60  60
 60  60  64  62  73  62  60  61  60  60  60  60  60  60  69  65
 60  60  71  63  60  60  63  89  93  93  90  86  60  74  92  92
 91  91  91  91  91  92  92  91  91  91  91  91  91  91  91  91
 91  91  91  93  91  92  93  91  91  92  91  91  91  90  91  91
 92  92  93  92  91  90  91  91  91  91  90  91  90  91  90  91
 91  91  92  91  91  90  90  91  91  90  91  91  91  90  90  90
 90  90  90  92  91  87  60  60  60  60  60  60  60  60  62  60
 60  60  92  92  96  91  61  60  65  65  63  68  60  60  60  64
 60  60  61  61  60  60  60  60  60  60  60  60  84  60  61  60
 60  61  60  61  60  61  60  60  60  60  60  62  60  61  60  63
 60  60  60  60  60  63  60  60  60  60  63  70  67  87  95  99
 99 101  97  98  99  97  92  85  89  92  97  94  94  96  94  93
 92  95  87  82  87  90  86  60  60  60  60  60  62  67  60  60
 60  60  60  61  60  81  88  96  96  96  96  91  95  91  60  60
 89  99  98 105 107  96  97  98  96  98  98  98  98  98  99  99
 99  98  98  98  97  98  98  98  98  98  97  98  98  98  98  95
 98  97  94  93  98  98  99  99  98  98  98  98  93  92  93  90
 91  92  75  60  71  62  60  60  60  60  60  62  60  60  60  63
 60  64  65  60  60  60  60  61  60  60  60  62  69  77  77  89
 85  79  89  94  96  99  96  94  96  98  90  60  61  61  66  72
 64  63  62  61  62  61  64  65  73  69  66  76  60  73  74  60
 63  60  88  85  60  87  82  86  89  89  88  91  90  88  92  91
 98 100  98  93  92  94  94 101  75  60  60  90  92  94  94  92
 85  83  93  85  60  60  60  60  60  60  83  93  93  93  90  60
 61  60  60  60  60  60  62  65  60  61  63  60  60  60  68  72
 64  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED :31  MAY 1979              DATA ANALYZED : 13  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : CRUSH
 SERIAL NUMBER : 1218                          JOB CODE : 001
      BASELINE : 60 DB                        USER CODE : 0H07
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  100315
 TEST DURATION =   6:57:58                 STANDBY TIME =  17:16: 5

         TIME HISTORY ANALYSIS

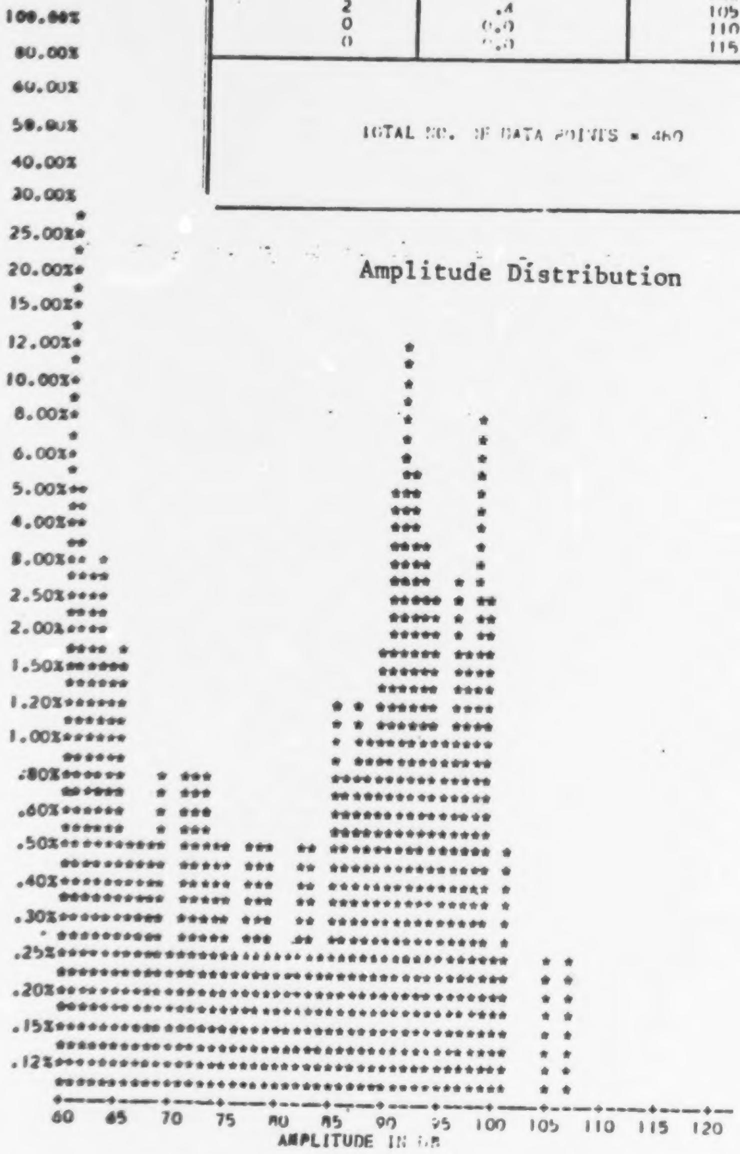
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 417
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1      83.8       83.8              5.303      5.30
   2      90.7       88.1             13.830     19.13
   3      75.0       85.7              1.562     20.69
   4      90.4       87.2             13.184     33.88
   5      96.5       90.2             30.770     64.65
   6   [illegible]   89.5              5.171     69.82
   7      88.4       89.5              9.472     79.29
MIN. COMP. =  60 DB                MAX. COMP. = 107 DB
ARITHMETIC MEAN =  78 DB
STD. DEVIATION =  16 DB
VARIANCE =256 DB
```

⑪

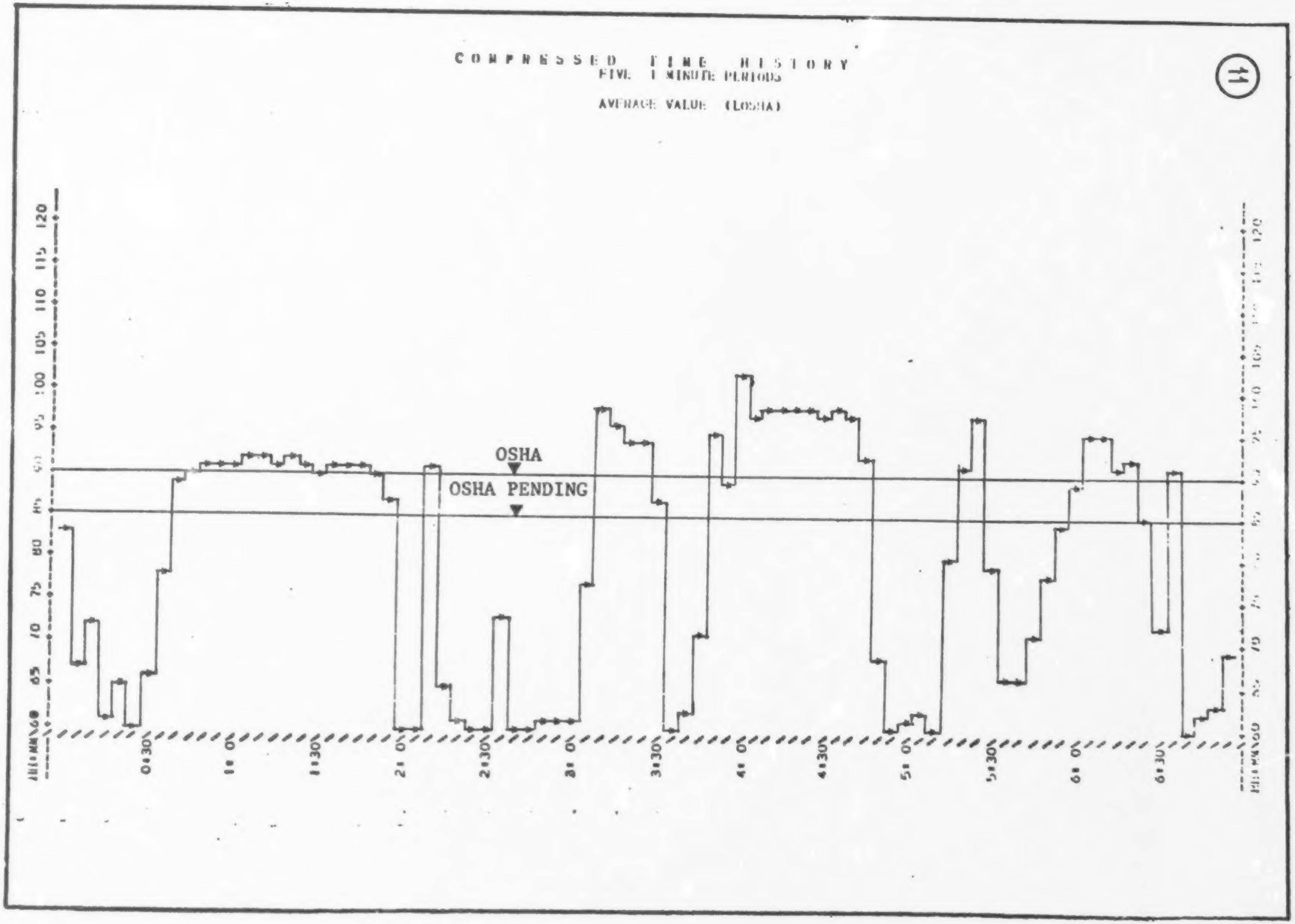
AMPLITUDE DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	[illegible]	
228	47.5	60 TO 64
16	3.4	65 TO 69
12	2.5	70 TO 74
9	1.9	75 TO 79
7	1.5	80 TO 84
24	5.0	85 TO 89
117	21.4	90 TO 94
62	12.9	95 TO 99
3	.6	100 TO 104
2	.4	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 460



Amplitude Distribution

Number of computations = 417



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)

⑫

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 04/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0637
 ENTER JOB CODE (3 CHARS) : 143
  1  26  85  1215   60   64    4    1
   4/224     107760   449
  80  65  63  64  60  60  64  62  63  60  60  63  66  67  70  61
  60  60  85  88  72  78  86  75  87  92  90  92  75  60  89  60
  60  60  60  60  60  62  89  89  60  60  60  60  60  60  60  60
  60  64  62  60  60  60  60  62  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  81  86  60  83  84  89  88  89  91  70  69  62  60  60  62  61
  72  60  60  71  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  61  60  61  60  66  69  60  60
  60  62  64  71  68  62  75  74  83  60  60  60  69  60  60  63
  60  60  60  77  72  76  82  85  94  91  92  91  89  97  97  95
  85  83  83  82  68  67  63  68  66  62  73  60  60  69  60  61
  76  70  70  75  74  84  61  74  64  60  61  60  74  60  68  62
  69  74  60  60  60  60  68  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  62  61  67  60  60
  60  61  60  60  60  60  60  60  60  82  94  88  60  77  89  61
  60  61  65  92 101  97  97  99  97  94  99  97  98  99  98  99
  96  96  93  91  96  97  90  81  92  94  94  87  94  93  91  89
  91  90  92  94  95  86  82  83  84  84  84  80  88  88  87  95
  92  85  86  92  95  97  97  93  96  96  96  95  93  95  95  94
  96  95  96  95  95  94  95  97  96  96  91  96  95  94  95  94
  97  96  97  96  96  93  86  87  89  91  85  92  94  97 100  94
  97  94  96  86  87  88  91  98  98  99  88  86  81  92  98  98
 100 100 100 100 100 100 100  99 100 100  98  89  85  83  85  95
  93  92  92  89  76  85  63  87  83  60  60  67  60  60  71  76
  70  60  60  60  60  60  60  60  60  60  60  60  60  60  60  76
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

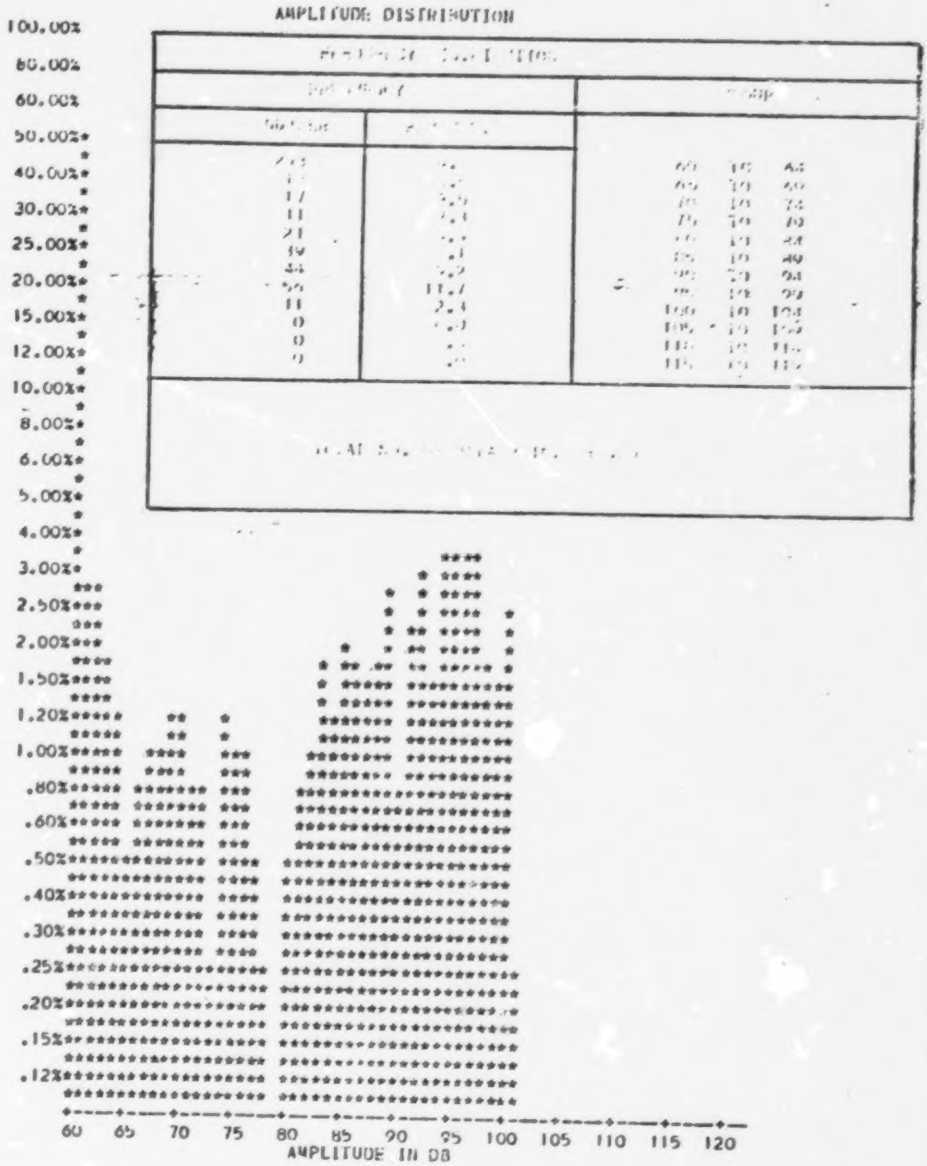
```
    DATA LOGGED : 4 JUNE 1979          DATA ANALYZED : 14  AUG 1979
         LOGGER : DB-301/26                SITE CODE : CRUSH
  SERIAL NUMBER : 1215                      JOB CODE : 143
       BASELINE : 60 DB                    USER CODE : 0637
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  107760
  TEST DURATION =    7:29: 0            STANDBY TIME =   3:16:46

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 449
  PERIOD =  1 MINUTES


  TIME          LOSHA                       %DOSE
  HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1       77.4      77.4            2.168      2.17
    2       60.1      73.0             .197      2.37
    3       73.8      73.3            1.324      3.69
    4       81.3      76.3            3.753      7.44
    5       72.0      75.6            1.035      8.48
    6       92.9      82.7           18.810     27.29
    7       95.1      86.3           25.394     52.68
    8       91.9      85.9            7.891     60.57
  MIN. COMP. =  60 DB                MAX. COMP. = 101 DB
  ARITHMETIC MEAN =  73 DB
  STD. DEVIATION =  15 DB
  VARIANCE =225 DB
```

⑫

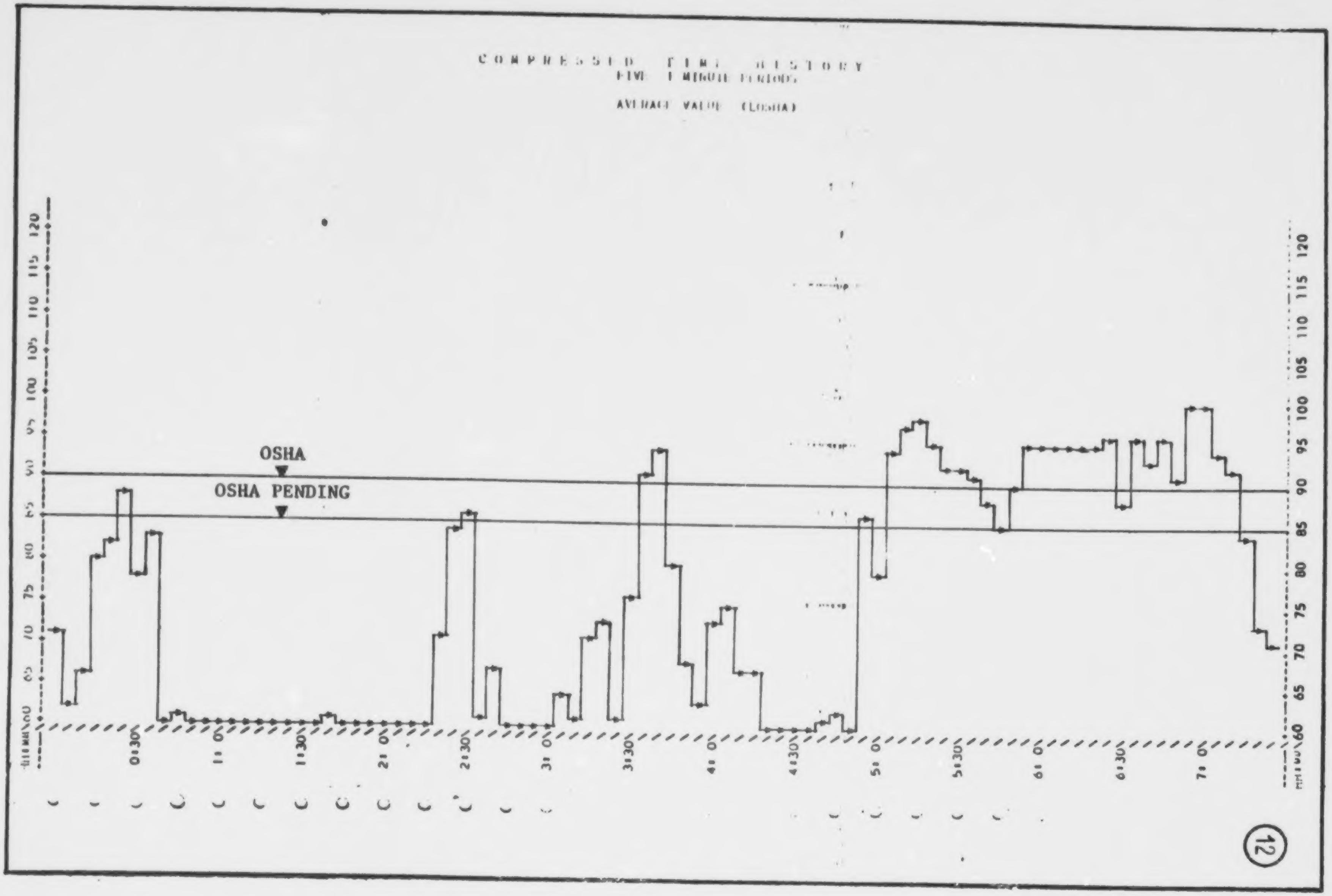


AMPLITUDE DISTRIBUTION

[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	60 TO 64
[illegible]	[illegible]	65 TO 69
17	[illegible]	70 TO 74
11	[illegible]	75 TO 79
21	[illegible]	80 TO 84
19	[illegible]	85 TO 89
44	[illegible]	90 TO 94
[illegible]	11.7	95 TO 99
11	2.4	100 TO 104
0	[illegible]	105 TO 109
0	[illegible]	110 TO 114
0	[illegible]	115 TO 119

[illegible]

Number of computations = 449



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑬

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 04/06/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 0280
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1218   60   64    4    1
   55398     102176   425
  66  60  61  64  60  60  60  62  60  60  60  61  60  60  65  71
  73  66  61  70  69  67  60  60  60  66  72  62  63  60  60  60
  61  60  61  60  83  82  60  60  62  67  70  68  60  65  75  72
  80  76  62  75  81  76  87  87  72  70  65  67  60  60  61  60
  60  65  60  60  61  60  60  60  60  67  69  71  76  70  70  60
  60  60  63  76  74  76  74  77  77  70  81  76  81  76  76  75
  74  77  72  73  76  77  71  84  86  84  77  85  83  77  67  61
  60  60  60  60  60  61  63  66  64  60  60  60  60  60  63  69
  64  72  75  65  60  63  60  60  60  62  64  60  62  69  78  81
  74  60  60  68  60  61  60  77  73  60  65  60  73  60  60  69
  69  75  64  77  63  65  67  70  64  74  65  64  72  81  68  79
  82  69  69  60  60  60  75  83  79  60  60  60  65  62  62  71
  65  60  60  76  72  74  69  62  67  77  75  64  60  65  71  60
  60  60  60  60  62  72  70  81  86  87  90  93  94  94  92  88
  87  88  87  85  83  84  72  67  61  65  70  71  71  60  63  66
  60  61  80  64  71  70  74  64  64  68  73  81  64  60  60  60
  62  60  61  63  61  69  60  61  66  60  71  69  60  60  62  60
  60  62  60  67  73  61  61  63  63  62  70  63  67  69  64  69
  66  64  66  64  60  61  61  60  61  61  63  65  89  95  99  71
  60  60  65  71  64  60  61  60  67  63  77  93 101 100  82  79
  60  60  60  60  66  84  96 101 101 100 101 101 100  99 105 105
 105 105 104 103  83  68  64  60  60  60  60  60  60  60  76  91
  90  98 100  65  60  74  60  97  99  96  73  65  60  63  63  65
  65  60  60  63  62  60  60  60  63  69  60  61  60  60  63  60
  60  60  60  65  61  63  64  63  60  60  65  67  65  66  60  60
  60  60  61  60  61  60  60  64  60  61  60  60  92  99  96  96
  95  88  60  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



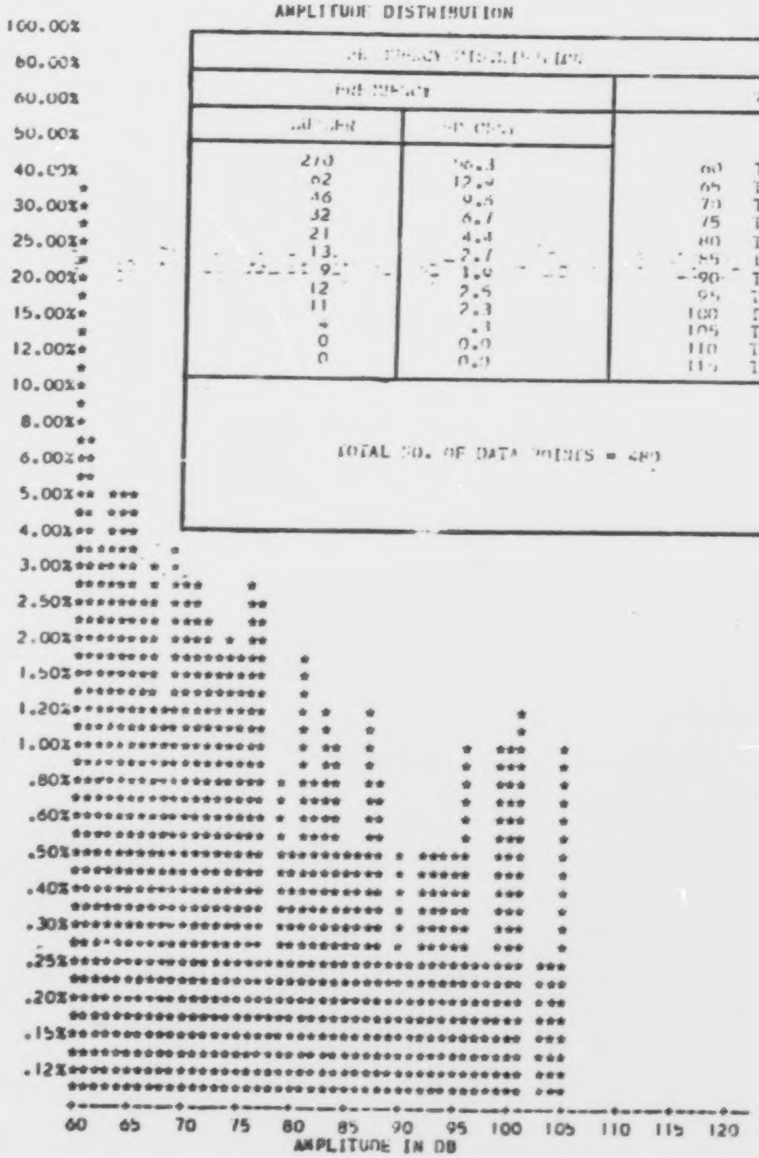

   DATA LOGGED : 4 JUNE 1979                  DATA ANALYZED : 14  AUG 1979
        LOGGER : DB-301/26                        SITE CODE : CRUSH
 SERIAL NUMBER : 1218                              JOB CODE : 001
      BASELINE : 60 DB.                           USER CODE : 0280
 DYNAMIC RANGE : 64 DB                            THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  102176
 TEST DURATION =    7: 5:44                    STANDBY TIME =   3:50:49

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 Db / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 425
 PERIOD =  1 MINUTES

 TIME          LOSHA                         %DOSE
 HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       71.6       71.6             .972       .97
    2       73.9       72.8            1.345      2.32
    3       69.9       72.0             .772      3.09
    4       80.3       75.1            3.246      6.33
    5       66.7       74.0             .495      6.83
    6       94.2       83.2           22.487     29.32
    7       81.7       83.0            3.978     33.30
    8       60.2       82.9             .017     33.31
 MIN. COMP. =  60 DB                MAX. COMP. = 105 DB
 ARITHMETIC MEAN =  69 DB
 STD. DEVIATION =  11 DB
 VARIANCE =121 DB
```

⑬



AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
270	56.3	60 TO 64
62	12.9	65 TO 69
46	9.6	70 TO 74
32	6.7	75 TO 79
21	4.4	80 TO 84
13	2.7	85 TO 89
9	1.9	90 TO 94
12	2.5	95 TO 99
11	2.3	100 TO 104
4	.8	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

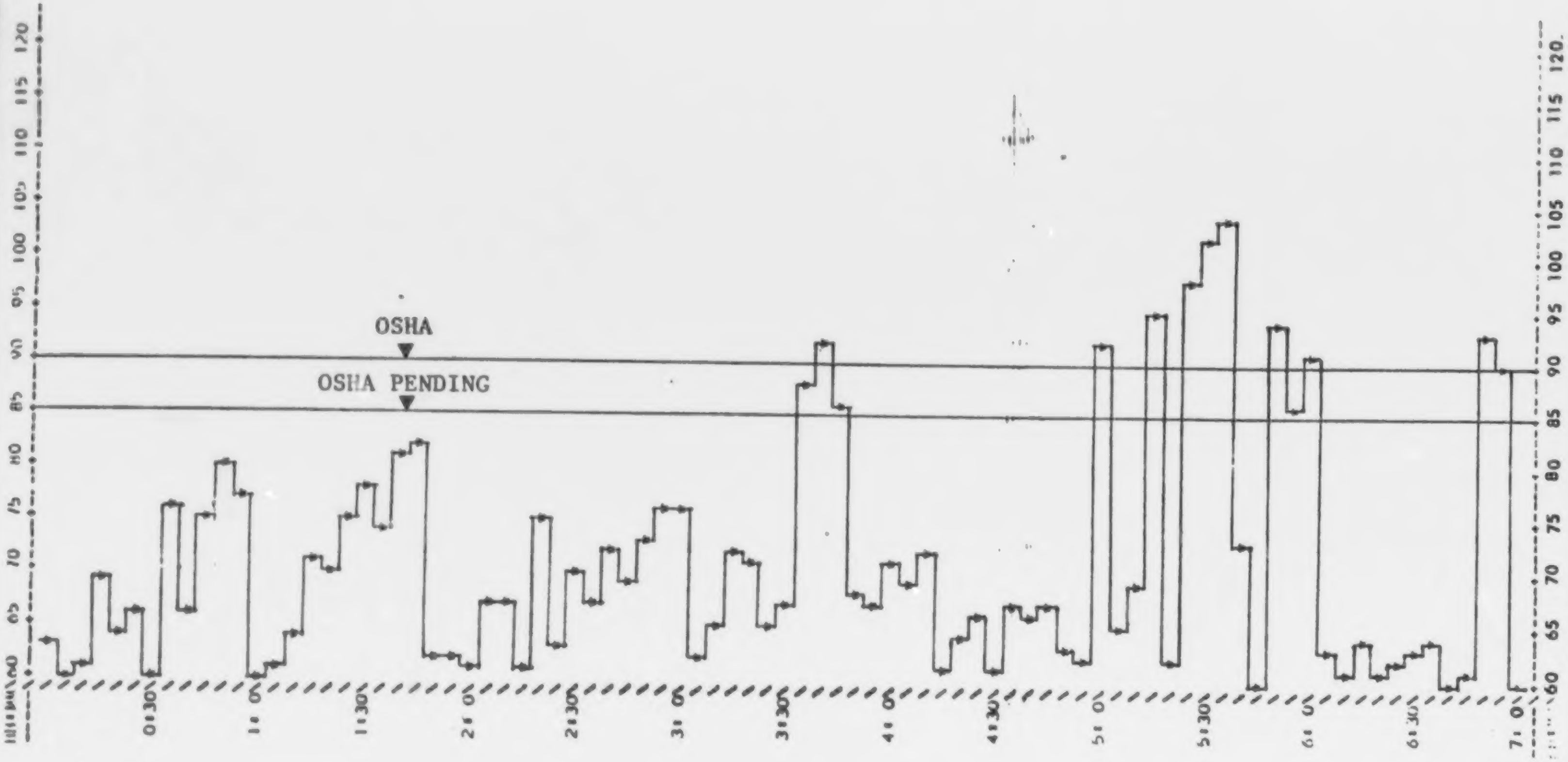
TOTAL NO. OF DATA POINTS = 480

Number of computations = 425

⑬

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑭

Mechanic

```
 ..
  [illegible]
ENTER LOG DATE (MM/DD/YR) : 01/25/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0735
 ENTER JOB CODE (3 CHARS) : 001

  1  26  85  1217   60   64    4    1
   55358      106974   445
  66  73  73  60  64  62  68  60  64  79  89  72  77  70  60  66
  71  77  83  89  91  90  85  75  82  87  93  93  93  94  94  87
  66  65  73  76  85  82  60  64  68  86  84  90  88  85  87  87
  88  87  86  89  89  89  85  74  61  82  96  93  94  97  97  90
  92 103  93  76  73  77  84  88  87  87  89  89  84  79  86  79
  74  71  81  88  88  92  91  98 102  89  90  90  88  86  88  87
  88  88  88  89  88  88  88  89  91  91  91  90  88  88  90  89
  65  78  76  66  72  74  76  77  90  80  82  60  92  83  81  76
  61  83  88  90  81  62  71  61  64  60  66  78  60  64  74  65
  66  69  70  77  65  60  60  82  94  97  97  97 107 108 108  94
  94  95  94  94  93  94  93  94  95  95  96  95  95  95  95  92
  86  95  95  95  95  94  94  95  95  96  95  95  96  97  98  97
  97  95  94  94  95  94  94  95  94  95  96  95  94  93  94  95
  95  95  94  94  95  95  95  94  94  96  95  96  95  95  95  94
  96  96  95  95  95  95  97  95  94  94  94  94  95  94  94  95
  96  97  96  94  95  95  94  97  95  94  95  94  97 100  96  94
  94 100  99 100  99  96  90  85  78  67  60  66  61  60  67  75
  60  60  60  77  70  66  63  62  63  63  63  75  61  73  80  70
  70  70  75  66  68  70  65  65  68  73  67  70  73  90  94  94
  96  95  94  95  94  94  93  92  93  93  93  95  92  93  93  93
  93  92  92  92  93  92  93  93  92  95  93  95  95  93  85  91
  94  95  96  95  95  95  96  96  94  91  90  86  71  91  95  95
  95  95  95  95  95  96  96  95  99  96  95  95  93  79  90  95
  95  94  94  95  95  94  95  96  95  96  95  96  96  95  94  95
  97  97  96  95  94  96  97  96  96  96  95  95  95  96  96  96
  96  96  96  96  97  95  95  95  92  79  90  91  95  96  97  96
  95  95  95  95  95  95  95  96  95  95  94  94  94  97  96  95
  96  94  94  95  96  97  97  91  82  87  60  65  91  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF 26  85  1214

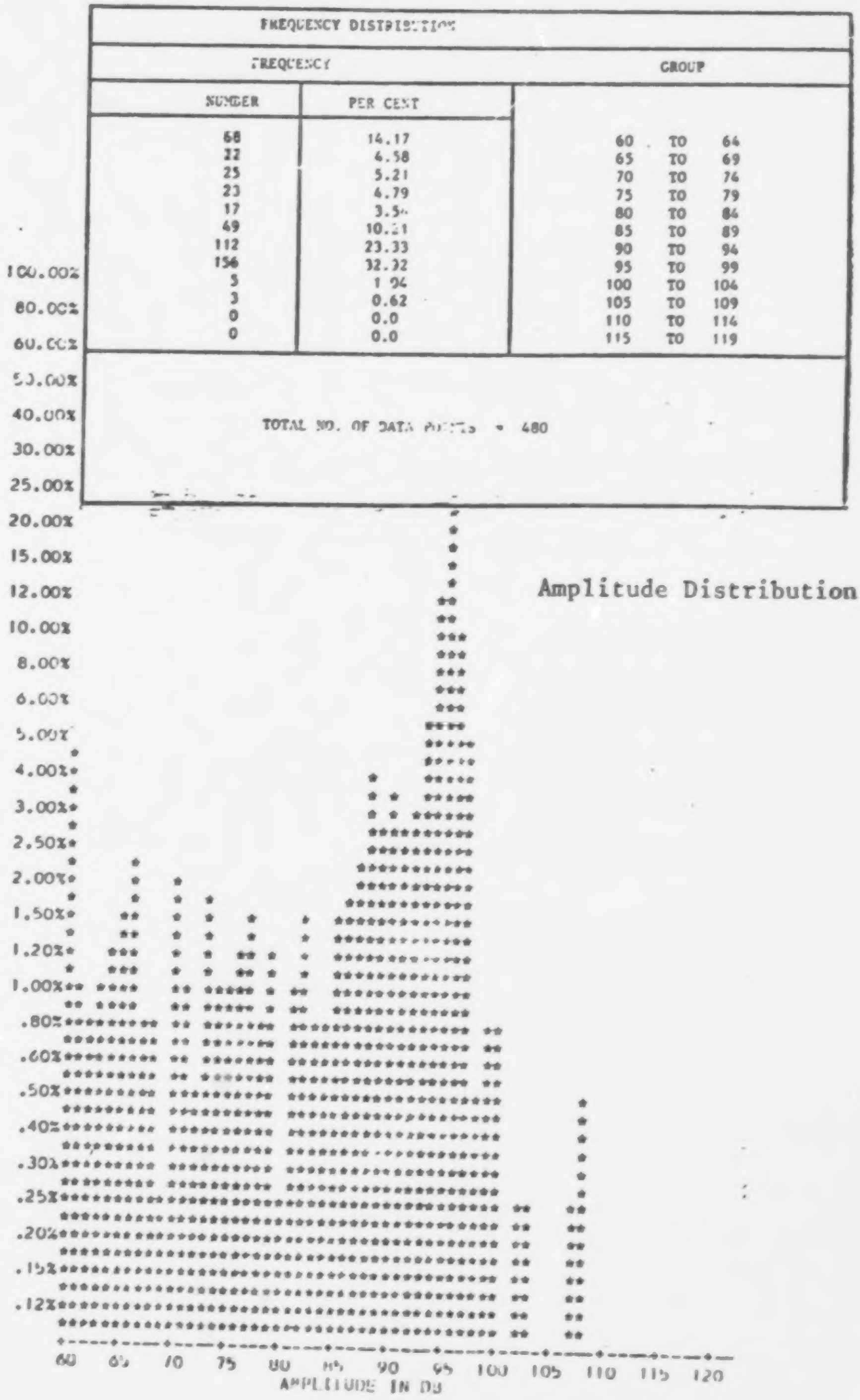

     DATA LOGGED : 4 JUNE 1979              DATA ANALYZED : 14  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : CRUSH
   SERIAL NUMBER : 1217                          JOB CODE : 001
        BASELINE : 60 DB                        USER CODE : 0735
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  106974
   TEST DURATION =    7:25:43                STANDBY TIME =   3:50:39

           TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 445
  PERIOD =  1 MINUTES

 TIME          LOSHA                      %DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1      85.2      85.2            6.449      6.45
    2      89.6      87.8           11.868     18.32
    3      92.9      89.9           18.717     37.03
    4      95.0      91.6           25.001     62.03
    5      89.7      91.2           12.066     74.10
    6      93.5      91.7           20.333     94.43
    7      95.1      92.3           25.311    119.74
    8      93.9      92.4            8.989    128.72
MIN. COMP. =  60 DB                MAX. COMP. = 108 DB
ARITHMETIC MEAN =  87 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑭



FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
68	14.17	60 TO 64
22	4.58	65 TO 69
25	5.21	70 TO 74
23	4.79	75 TO 79
17	3.54	80 TO 84
49	10.21	85 TO 89
112	23.33	90 TO 94
156	32.32	95 TO 99
5	1.04	100 TO 104
3	0.62	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

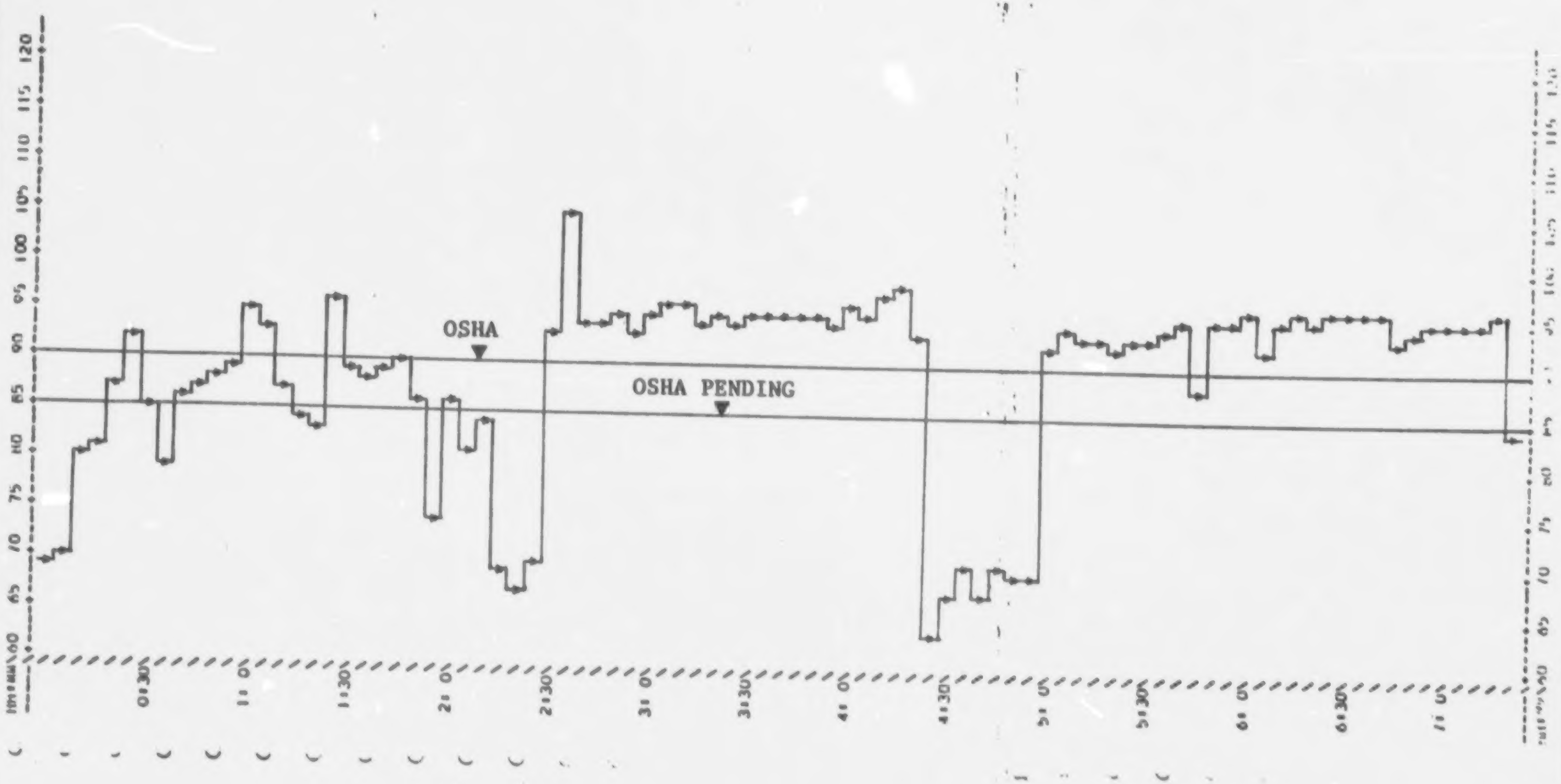
Amplitude Distribution

Number of computations = 445

A56

C O M P R E S S E D   T I M E   H I S T O R Y
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑪

⑮

Mechanic

```
[illegible]
ENTER LOG DATE (DD/MM/YR) : 04/06/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0922
 ENTER JOB CODE (3 CHARS) : 011
  1  26  65  1214   60   64    4    1
   55941     106700  444
   69   62   60   63   60   65   66   72   64   71   60   62   72   60   60   62
   60   60   60   60   60   60   60   60   60   60   60   60   60   66   60   60
   60   65   83   60   62   66   67   64   65   65   64   67   60   60   76   82
   85   60   61   71   60   61   60   60   60   60   60   60   60   60   60   63
   65   60   64   67   62   63   60   60   60   65   64   72   66   60   60   60
   60   60   60   60   61   62   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   67   60   60   60   61   60   60   60   61   60   60   60   60
   60   60   60   60   61   64   60   60   64   60   65   64   64   60   60   60
   60   60   67   60   69   60   70   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   62   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   68   90   88   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   62   60   60   62   60   60   60   60   60
   60   60   60   60   61   60   60   64   66   72   65   60   60   60   66   76
   78   89   69   89   90   86   81   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   64
   60   60   64   66   62   70   84   95   93   93   96   97   95   97   96   89
   69  102   99  100  100  100   98   95   95   96   96   91   64   80   89   92
   95   93   93   92   88   85   88   72   60   60   60   60   86   96   99   99
  100  102   99   99   99   99   98   94   86   83   83   85   86   87   96   72
   60   69   60   80   98   99   98   96   98   99   98   98   98   98   98   98
   98   98   98   98   98   98   98   98   98   98   98   98   98   98   99   98
   99   99   99   99   98   97   94   95   82   93   95   97   98   99   99   99
   98   98   98   98   93   98   98   98   98   98   98   98   98   98   99   98
   98   98   98   98   99   92   75   77   83   84   83   81   84   83   84   81
   79   79   72   85   79   83   86   86   92   91   92   66   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60 . 60   60   60   60   60   60   60   60   60   60
%EOF
```

```
    DATA LOGGED : 4 JUNE 1979                DATA ANALYZED : 14  AUG 1979
         LOGGER : DB-301/26                      SITE CODE : CRUSH
  SERIAL NUMBER : 1214                            JOB CODE : 0922.
       BASELINE : 60 DB                          USER CODE : 011
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  106700
  TEST DURATION =   7:24:35                   STANDBY TIME =   3:53: 5

           TIME HISTORY ANALYSIS

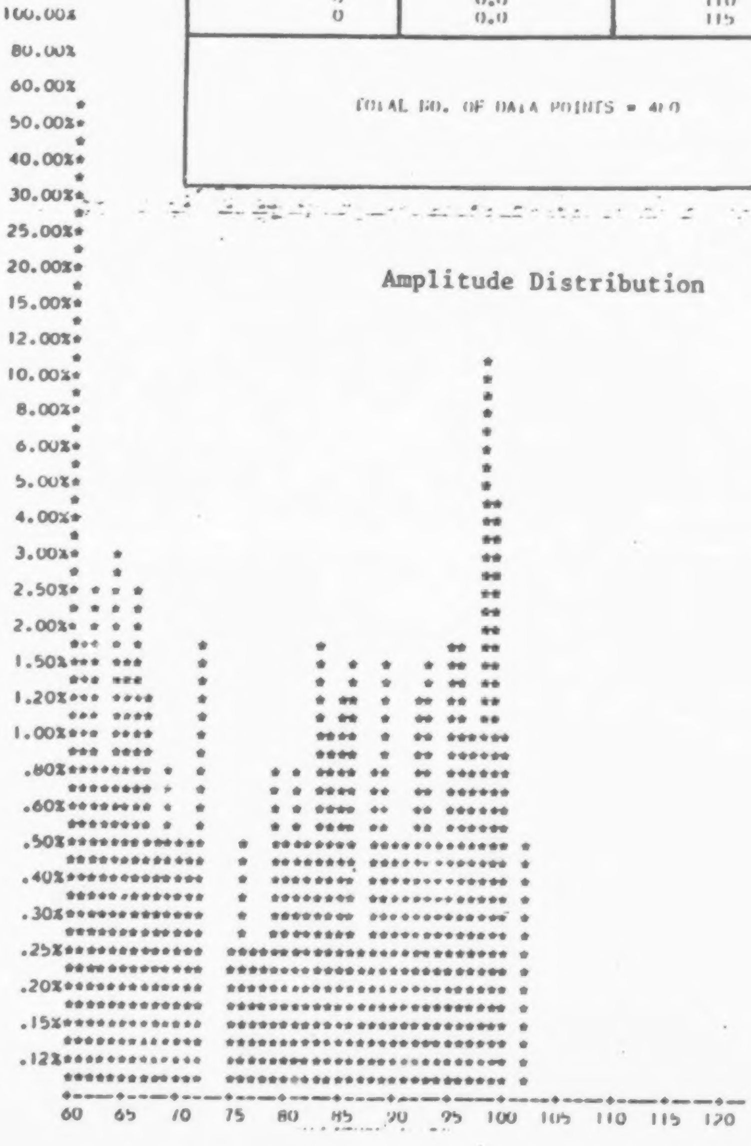
  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 444
  PERIOD =  1 MINUTES

  TIME          LOSHA                          %DOSE
  HOUR    CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
     1      69.0       69.0                .677       .68
     2      61.5       66.2                .242       .92
     3      61.3       64.9                .232      1.15
     4      67.7       65.7                .565      1.72
     5      80.5       71.9               3.371      5.09
     6      94.3       82.8              22.632     27.72
     7      97.8       87.8              36.776     64.49
     8      86.2       87.7               2.968     67.46
  MIN. COMP. =  60 DB                  MAX. COMP. = 102 DB
  ARITHMETIC MEAN =  72 DB
  STD. DEVIATION =  16 DB
  VARIANCE =256 DB
```

FREQUENCY DISTRIBUTION ⑮

FREQUENCY		GROUP
NUMBER	PERCENT	
290	60.4	60 TO 64
26	5.4	65 TO 69
11	2.3	70 TO 74
8	1.7	75 TO 79
16	3.4	80 TO 84
21	4.4	85 TO 89
17	3.5	90 TO 94
83	17.3	95 TO 99
6	1.3	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

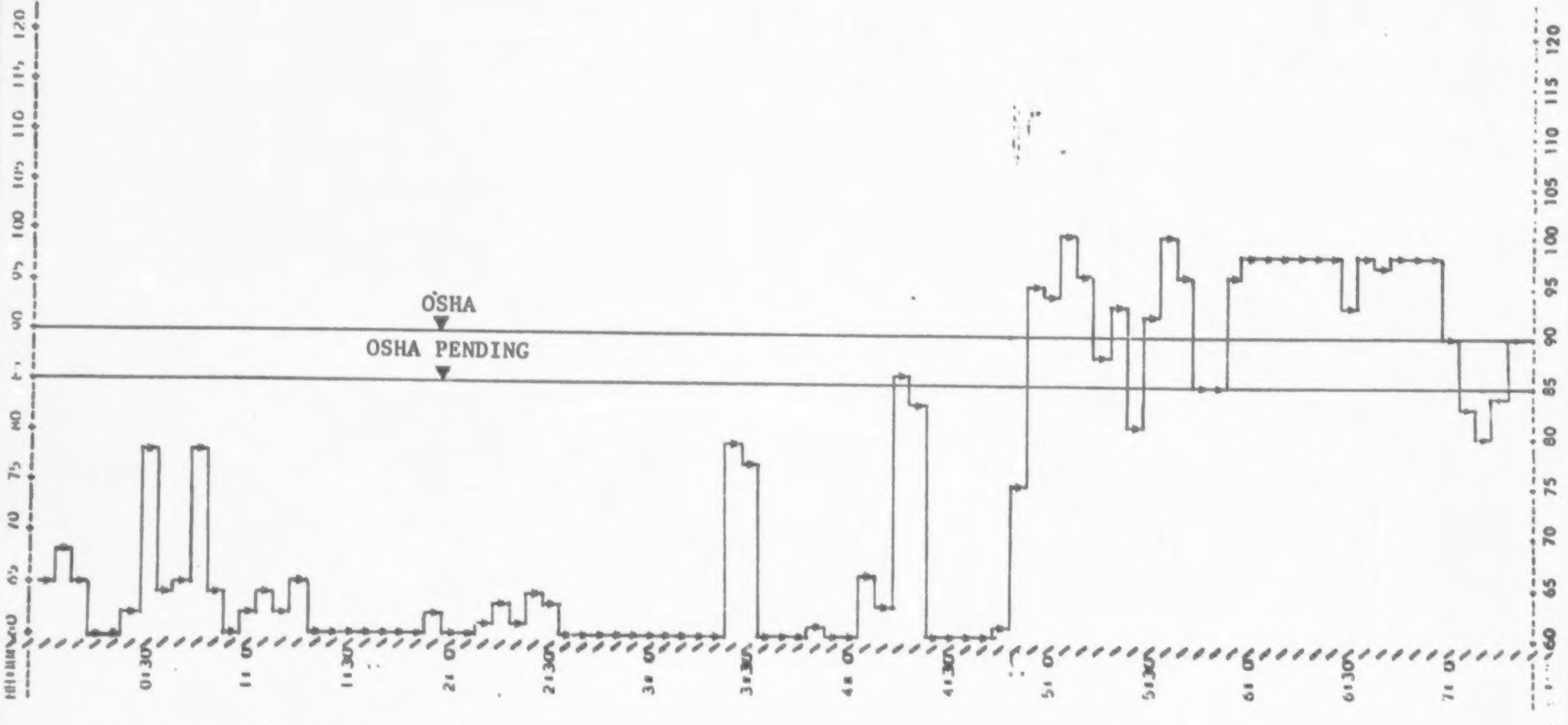
TOTAL NO. OF DATA POINTS = 480


Amplitude Distribution

Number of computations = 444

15

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (DBA)



⑯

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0843
 ENTER JOB CODE (3 CHARS) : 001
 1  26  85  1212   60   64    4    1
   9633    110859  461
  65  60  60  74  69  74  60  60  66  61  60  60  60  60  60  60
  70  60  60  60  60  60  60  60  60  60  61  64  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  73  64  61  60  60
  60  60  60  60  60  62  60  62  60  60  61  60  60  60  60  60
  60  61  63  60  60  60  60  63  73  60  60  60  60  60  63  60
  60  60  61  60  60  60  60  60  60  60  60  60  60  60  60  60
  76  82  86  80  76  84  60  60  62  60  60  60  60  60  60  63
  75  80  86  60  60  67  63  66  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  83  70  67  60  60  60  60
  60  60  60  60  60  60  60  60  60  64  60  68  79  73  60  60
  60  60  60  60  60  60  60  60  60  61  60  78  60  60  63  60
  65  60  62  65  60  60  68  67  61  65  64  64  60  60  61  71
  77  66  60  60  64  63  60  60  61  60  60  60  62  78  62  61
  60  61  60  66  66  63  60  64  77  67  60  64  67  62  62  62
  60  60  71  60  67  80  61  60  63  61  60  60  60  60  60  62
  60  60  71  62  60  60  60  60  66  64  73  71  63  75  67  63
  64  62  67  72  70  60  60  61  74  61  61  65  78  60  74  60
  60  62  63  65  60  60  60  64  60  64  60  60  63  60  60  60
  60  60  60  60  60  62  60  61  60  60  60  60  60  66  60  60
  60  60  60  60  60  65  90  94  93  92  92  94  94  93  92  90
  90  90  89  87 101  98  99  96  88  92  91  89  89  89  86  87
  88  89  89  88  90  83  71  77  88  89  89  87  86  87  88  86
  84  86  89  86  73  71  77  83  86  88  88  87  60  60  60  60
  76  68  62  62  60  64  60  60  60  60  60  86 101  98  84  60
  70  89  67  62  60  67  60  67  66  65  60  61  63  63  66  60
  60  60  60  60  60  61  60  61  60  60  67  60  60  60  62  60
  60  63  61  70  68  79  81  88  89  88  60  87  70  63  81  66
  60  60  60  65  63  70  68  82  60  78  67  86  86  82  85  87
  63  72  87  89  87  88  69  87  90  91  84  64  70  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
  DATA LOGGED : 5 JUNE 1979               DATA ANALYZED : 15  AUG 1979
       LOGGER : DB-301/26                     SITE CODE : CRUSH
SERIAL NUMBER : 1212                           JOB CODE : 001
     BASELINE : 60 DB                         USER CODE : 0843
DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  110859
TEST DURATION =    7:41:54                 STANDBY TIME =   0:40: 0

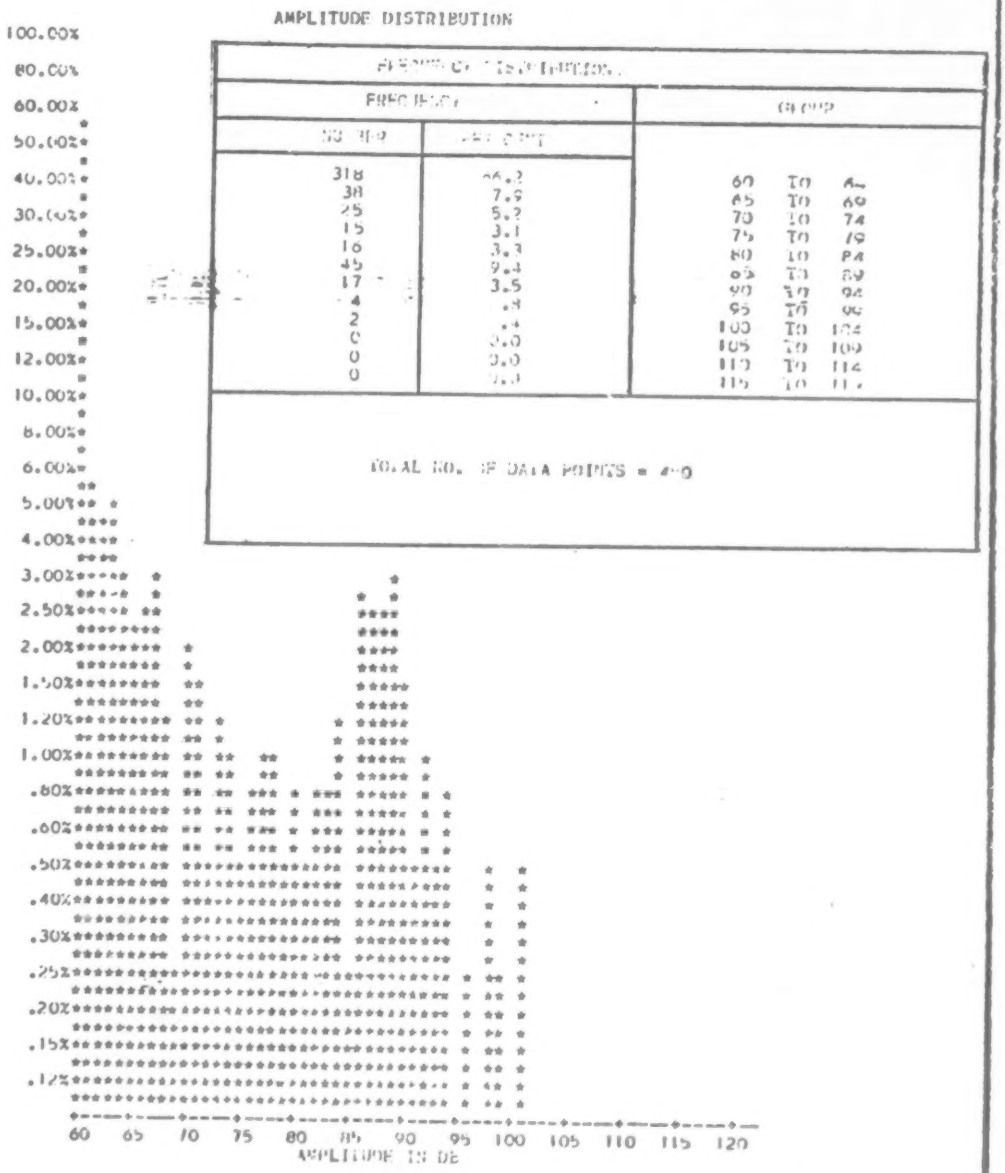
         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 461
PERIOD =  1 MINUTES

TIME         LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      62.7       62.7             .285       .28
   2      70.1       67.3             .791      1.08
   3      65.2       66.7             .400      1.48
   4      67.1       66.8             .522      2.00
   5      65.2       66.5             .401      2.40
   6      89.0       77.5           10.870     13.27
   7      79.3       77.8            2.819     16.09
   8      62.6       78.4            3.064     19.15
MIN. COMP. =  60 DB                MAX. COMP. = 101 DB
ARITHMETIC MEAN =  67 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑯

AMPLITUDE DISTRIBUTION

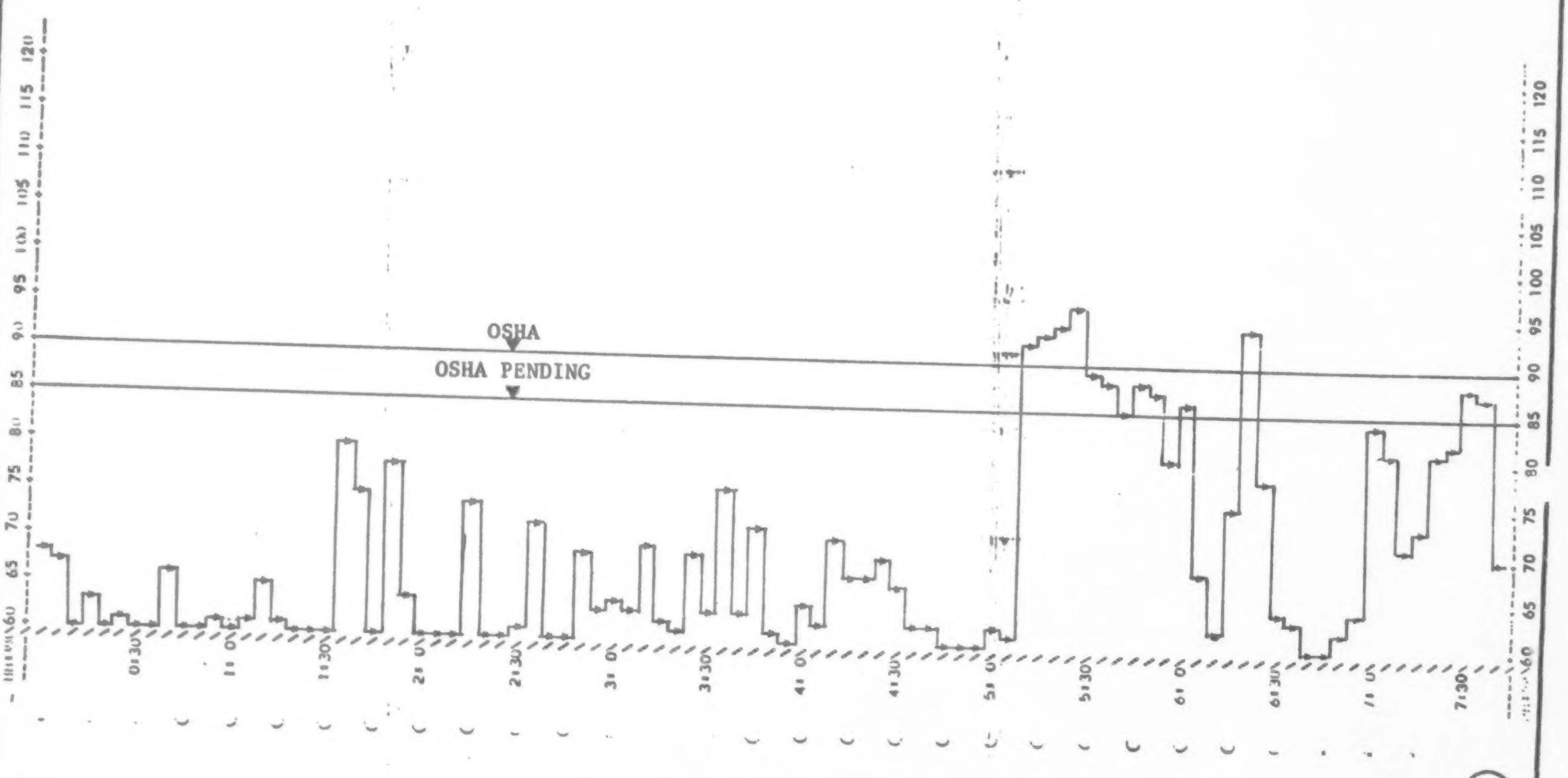


PERCENT OF DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PERCENT	
318	66.2	60 TO 64
38	7.9	65 TO 69
25	5.2	70 TO 74
15	3.1	75 TO 79
16	3.3	80 TO 84
45	9.4	85 TO 89
17	3.5	90 TO 94
4	.8	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 461

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑰

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH

ENTER USER CODE (4 CHARS) : 0195
 ENTER JOB CODE (3 CHARS) : 011
  1  26  85  1218   60   64    4    1
   10619    112061   466
  61  65  60  60  75  77  79  77  74  77  61  60  67  74  63  64
  60  60  66  66  62  67  82  86  68  68  82  77  78  77  74  74
  74  72  79  75  61  74  77  60  60  61  60  71  73  70  82  85
  83  71  60  60  60  60  60  66  60  60  65  68  60  60  60  68
  74  60  60  60  67  81  67  66  75  78  70  62  63  60  60  60
  60  78  65  62  65  63  60  60  68  60  67  60  77  75  69  70
  60  69  61  75  79  95  86  84  60  63  86  86  71  76  67  63
  62  65  61  65  63  72  68  78  69  60  67  61  60  60  66  63
  76  70  76  68  62  60  60  61  72  66  61  60  77  73  68  70
  63  73  78  62  74  67  77  80  70  70  71  80  77  73  73  69
  73  79  78  86  83  80  84  66  72  71  60  64  68  69  70  79
  61  87  83  81  85  86  86  85  85  81  87  85  86  84  82  83
  92  86  83  80  82  81  76  77  87  83  72  70  82  84  66  60
  74  80  86  83. 88  61  60  60  60  60  60  60  60  60  60  60
  60  60  62  70  72  73  78  84  86  70  78  78  60  60  60  61
  60  60  60  64  61  62  60  60  60  60  65  64  60  60  60  60
  73  83  80  80  68  60  60  60  60  61  67  61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  62  60  60  60  60  60  60  60  60  60
  60  82  86  87  83  60  60  60  60  60  84  60  60  60  74  85
  74  65  71  67  87  87  91  90  88  93  95  93  89  93  91  89
  88  88  90  92  93  92  88  88  87  87  87  87  87  88  92  89
  76  71  91  92  91  93  95  95  95  95  94  93  95  95  95  93
  93  94  94  94  94  94  94  94  93  93  94  92  92  94  88  61
  60  60  60  87  92  93  94  89  92  92  91  86  60  60  60  60
  60  60  64  67  60  86  95  93  93  93  95  93  93  92  93  92
  94  93  91  90  92  91  90  91  93  95  93  90  91  86  60  60
  61  60  60  70  84  87  87  94  96  95  92  91  92  87  68  84
  88  87  73  71  78  71  87  87  85  87  87  85  88  89  81  66
  69  83  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED : 5 JUNE 1979               DATA ANALYZED : 15  AUG 1979
         LOGGER : DB-301/26                     SITE CODE : CRUSH
  SERIAL NUMBER : 1218                           JOB CODE : 011
       BASELINE : 60 DB                         USER CODE : 0195
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  112061
  TEST DURATION =    7:46:55                 STANDBY TIME =   0:44:14

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 466
  PERIOD =  1 MINUTES


  TIME           LOSHA                        %DOSE
  HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
     1       73.5       73.5             1.274      1.27
     2       74.9       74.2             1.530      2.80
     3       74.8       74.4             1.526      4.33
     4       80.2       76.4             3.230      7.56
     5       65.3       75.1              .409      7.97
     6       87.2       79.1             8.518     16.49
     7       91.2       82.6            14.752     31.24
     8       87.6       83.3             6.897     38.14
  MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
  ARITHMETIC MEAN =  73 DB
  STD. DEVIATION =  13 DB
  VARIANCE =169 DB
```

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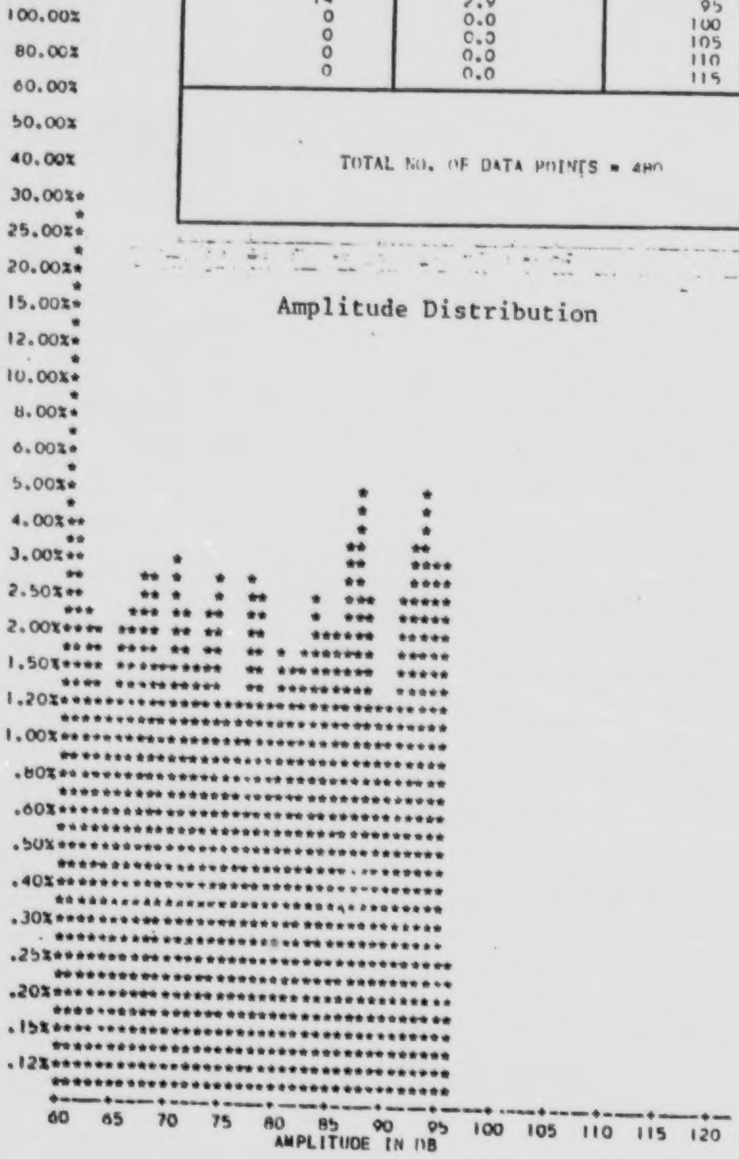
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
179	37.3	60 TO 64
45	9.4	65 TO 69
47	9.8	70 TO 74
36	7.5	75 TO 79
38	7.9	80 TO 84
58	12.1	85 TO 89
63	13.1	90 TO 94
14	2.9	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution

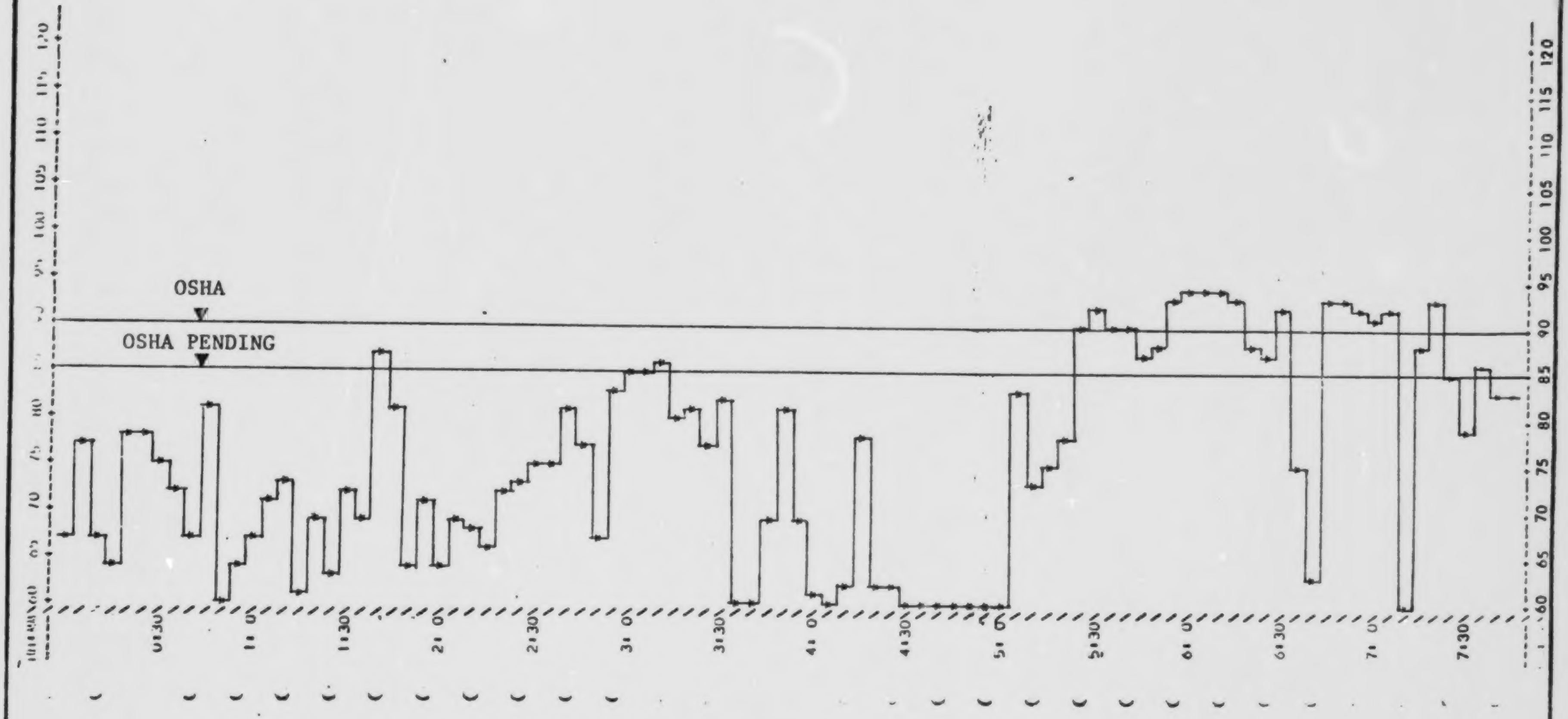


Number of computations = 466

⑰

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑱

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0922
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1213   60   64    4    1
   14199    109082  454
  60  72  60  60  60  60  60  67  67  65  66  60  60  60  60  60
  60  60  63  63  60  60  60  61  60  66  63  60  62  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  64  71  73  66  61
  60  60  60  60  60  65  60  63  64  64  60  60  60  60  60  60
  60  60  60  63  64  66  60  61  62  68  75  60  60  60  60  61
  64  60  60  60  61  63  60  60  60  60  60  60  60  60  60  62
  81  85  87  85  87  87  79  60  61  62  72  88  64  60  91  80
  63  65  64  74  75  60  67  76  64  72  61  61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  71
  60  60  60  60  61  60  60  60  60  60  60  60  60  76  75  60
  60  60  60  60  60  60  60  60  60  60  60  63  66  80  70  68
  64  60  68  68  80  78  79  69  70  72  62  67  60  78  89  78
  84  78  83  88  82  77  81  79  63  69  60  68  70  63  70  68
  94  92  64  61  64  60  69  66  72  86  85  69  60  60  81  72
  68  74  74  60  69  75  77  84  62  60  63  60  68  79  76  72
  60  60  75  63  71  78  77  83  62  63  71  65  78  87  68  69
  71  75  73  65  69  69  66  69  71  71  76  75  66  64  67  63
  71  74  68  66  69  61  65  70  60  62  60  63  60  60  62  60
  60  60  60  60  60  60  60  60  60  61  62  60  60  60  60  66
  60  60  60  60  60  60  60  69  60  60  67  75  60  60  60  60
  60  61  65  62  64  95  95  89  97  94  87  92  91  90  92  94
  90  60  60  60  70  60  60  60  60  73  90  90  90  89  87  88
  89  86  86  89  90  89  81  78  87  89  88  91  88  85  60  60
  61  69  74  67  69  64  63  60  63  60  62  60  60  66  60  66
  75  83  76  85  88  79  60  60  70  60  60  62  60  61  64  63
  61  63  60  63  60  60  60  60  60  60  60  60  60  60  61  60
  61  70  72  70  74  75  78  78  84  87  91  79  60  69  69  74
  78  60  60  60  60  72  60  73  68  91  89  89  89  89  91  87
  87  88  68  72  86  87  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
    DATA LOGGED : 5 JUNE 1979          DATA ANALYZED : 15  AUG 1979
         LOGGER : DB-301/26                SITE CODE : CRUSH
  SERIAL NUMBER : 1213                      JOB CODE : 001
       BASELINE : 60 DB                    USER CODE : 0922
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  109082
  TEST DURATION =    7:34:30            STANDBY TIME =   0:59: 9

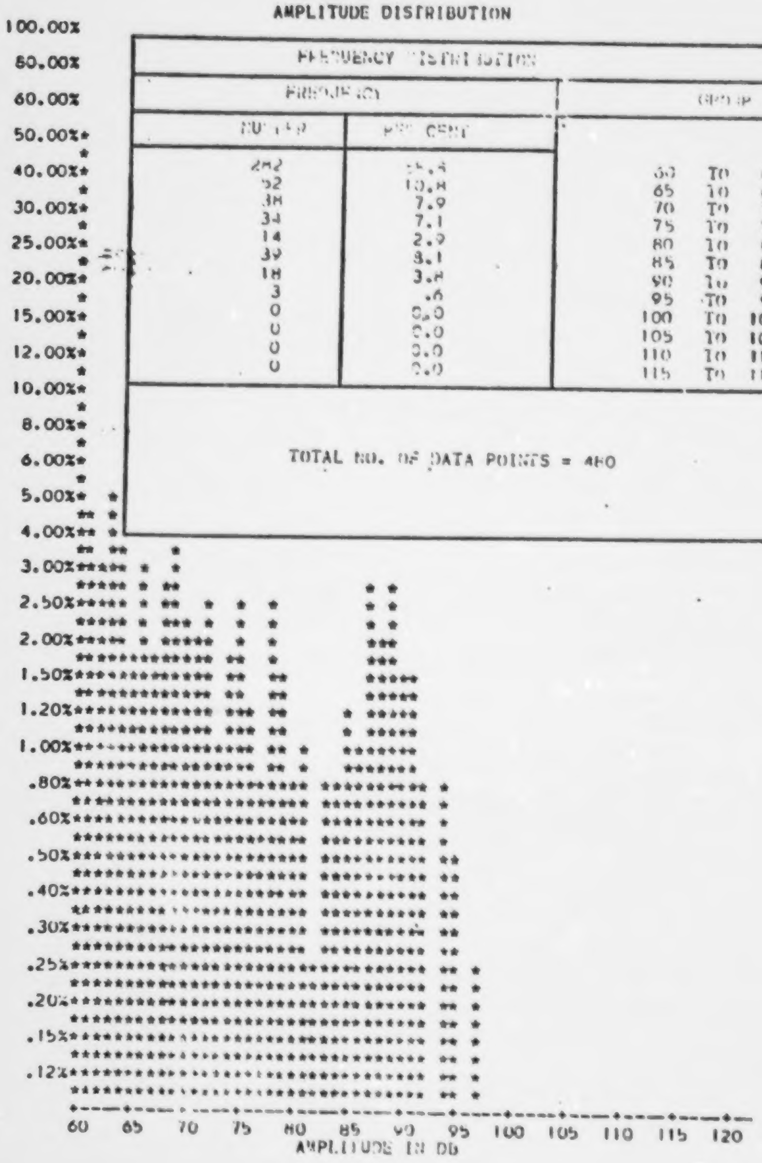
          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 454
  PERIOD =  1 MINUTES

  TIME          LOSHA                          %DOSE
  HOUR   CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1      62.7      62.7               .283        .28
    2      74.6      70.9              1.483       1.77
    3      64.4      69.3               .361       2.13
    4      78.7      73.0              2.598       4.72
    5      70.3      72.5               .815       5.54
    6      84.7      76.5              6.010      11.55
    7      75.6      76.4              1.687      13.24
    8      83.1      77.2              2.713      15.95
  MIN. COMP. =  60 DB                 MAX. COMP. =  97 DB
  ARITHMETIC MEAN =  67 DB
  STD. DEVIATION =  10 DB
  VARIANCE =100 DB
```

⑱

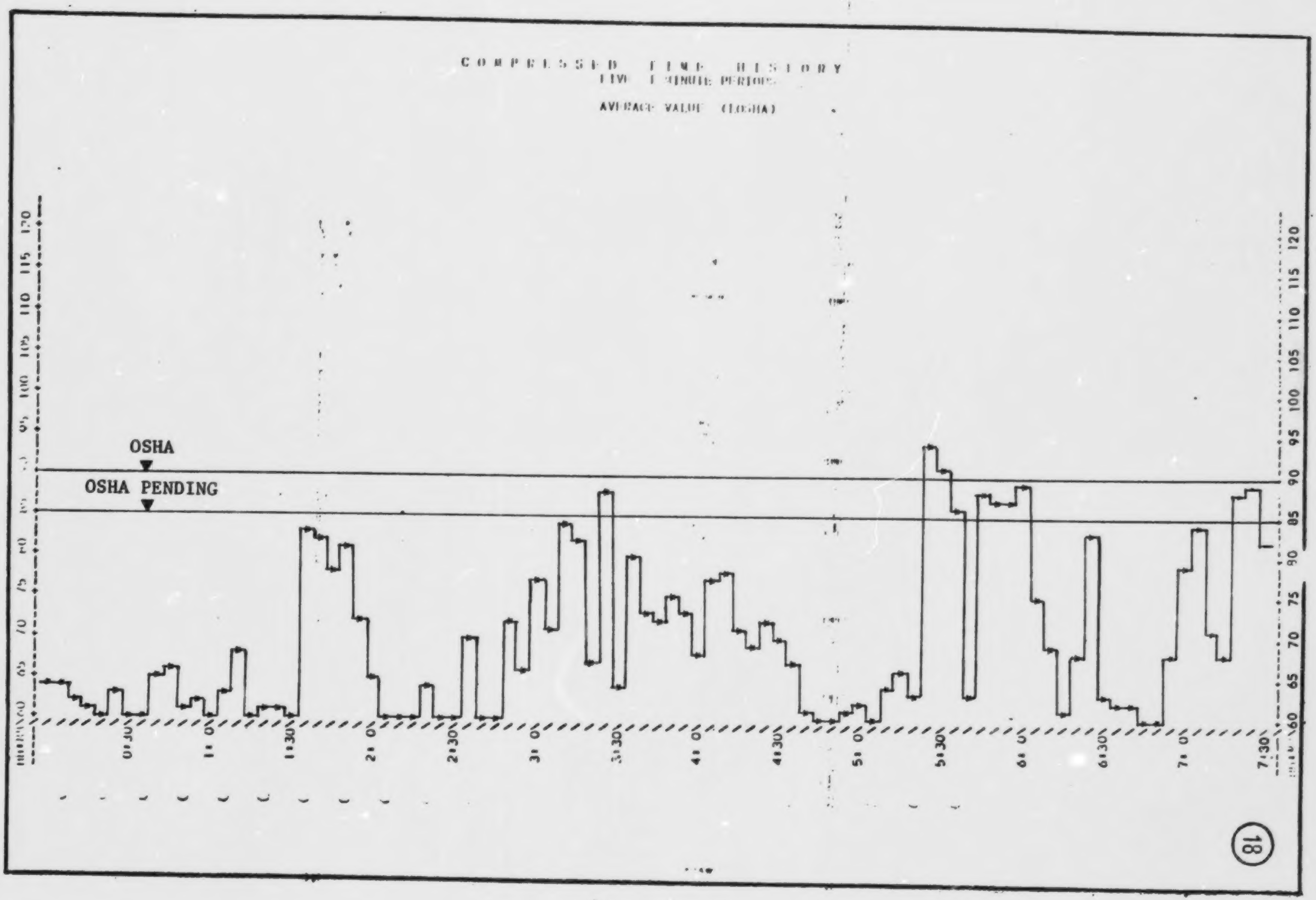
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
282	[illegible]	60 TO 64
52	10.8	65 TO 69
38	7.9	70 TO 74
34	7.1	75 TO 79
14	2.9	80 TO 84
39	8.1	85 TO 89
18	3.8	90 TO 94
3	.6	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 454


COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30
⑱

⑲

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0637
 ENTER JOB CODE (3 CHARS) : 143

  1  26  85  1220   60   64    4    1
   13493     110255  459
   60  60  69  60  60  60  64  68  69  71  69  61  72  66  61  68
   68  80  68  60  60  60  62  60 [illegible] 82  82  70  69  80  87  87
   87  86  87  74  83  87  86  85 [illegible] 87  88  88  87  87  81  62
   62  60  60  60  60  63  60  63  60  60  60  60  60  60  60  65
   67  60  68  60  68  84  91  81  60  61  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  62
   60  60  60  60  60  60  60  60  61  61  60  60  60  60  60  60
   60  60  60  60  64  62  60  66  60  65  74  69  73  75  77  60
   60  82  71  60  60  60  63  60  63  60  60  60  60  60  66  60
   68  68  65  69  60  60  60  73  78  69  62  60  67  72  60  60
   60  60  60  60  60  60  60  60  60  60  60  61  60  75  72  68
   60  61  62  64  60  60  60  64  60  60  72  87  86  60  89  86
   87  86  89  90  88  87  85  85  83  63  60  60  60  60  60  60
   60  67  62  60  60  60  60  63  60  60  60  60  61  60  60  60
   60  60  69  60  60  60  60  60  60  60  61  60  68  78  65  75
   75  70  81  78  66  60  64  60  79  72  86  81  71  72  64  65
   61  61  60  60  60  61  66  68  62  72  76  70  80  80  68  60
   60  69  61  64  60  65  61  67  63  60  61  62  60  60  60  60
   60  60  60  60  62  60  60  60  60  60  60  60  65  60  60  60
   60  60  60  60  61  61  60  60  68  85  80  79  93  93  93  94
   99  97 100 100  98  98  97  98  97  98  99 100  95 102 100 100
  101 100 100 100 100 100  99  97  97 100 100 100  99 100  99  98
   98  99 100  99  99  98  98  98  98  98  98  98  98  98  97  93
   92  92  93  96  94  98  98  96 100 100 101 101 100  99 100  99
  100 100 101 100  94  94  93  96  99  98  97  99 100 100 100 100
  100  98  96  93  93  90  86  88  93  87  72  76  81  67  77  82
   90  96  99  97  95  97  96  99 100 100 100 100 101 100 100 100
  100  99 102  99  95  99 100 100 100 101 100 100  96  68  79  91
   85  89  86  86  88  87  86  90  88  61  61  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



   DATA LOGGED : 5 JUNE 1979             DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : CRUSH
 SERIAL NUMBER : 1220                         JOB CODE : 143
      BASELINE : 60 DB                       USER CODE : 0637
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  110255
 TEST DURATION =    7:39:23               STANDBY TIME =   0:56:13

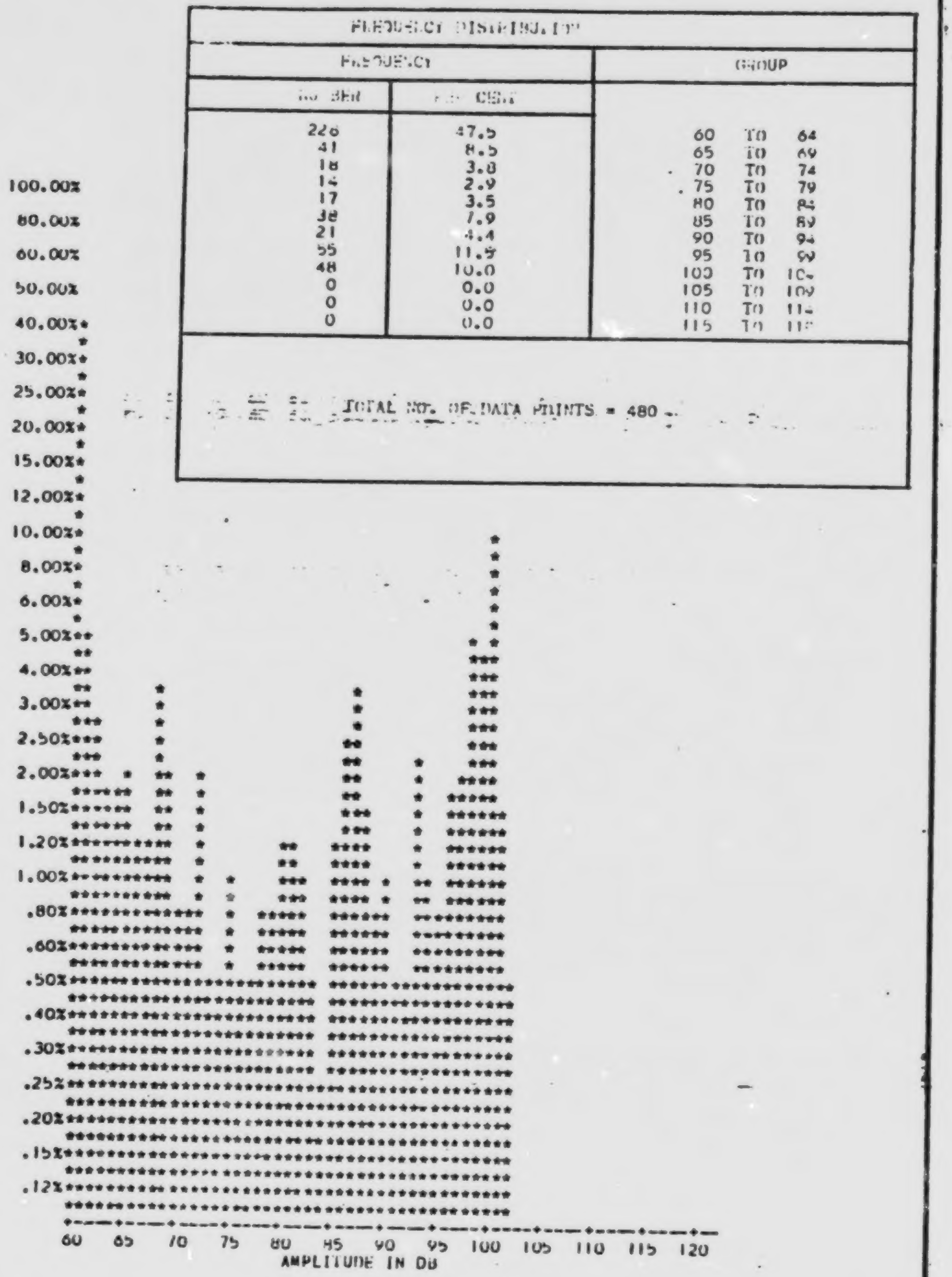
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 459
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      78.5       78.5            2.536       2.54
   2      68.2       75.0             .607       3.14
   3      67.3       73.3             .535       3.68
   4      76.9       74.4            2.045       5.72
   5      70.0       73.7             .760       6.50
   6      96.5       85.0           30.951      37.45
   7      96.7       88.3           31.440      68.89
   8      96.7       89.5           20.698      89.59
MIN. COMP. =  60 DB              MAX. COMP. = 102 DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =  16 DB
VARIANCE =256 DB
```

⑲

Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
228	47.5	60 TO 64
41	8.5	65 TO 69
18	3.8	70 TO 74
14	2.9	75 TO 79
17	3.5	80 TO 84
38	7.9	85 TO 89
21	4.4	90 TO 94
55	11.5	95 TO 99
48	10.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

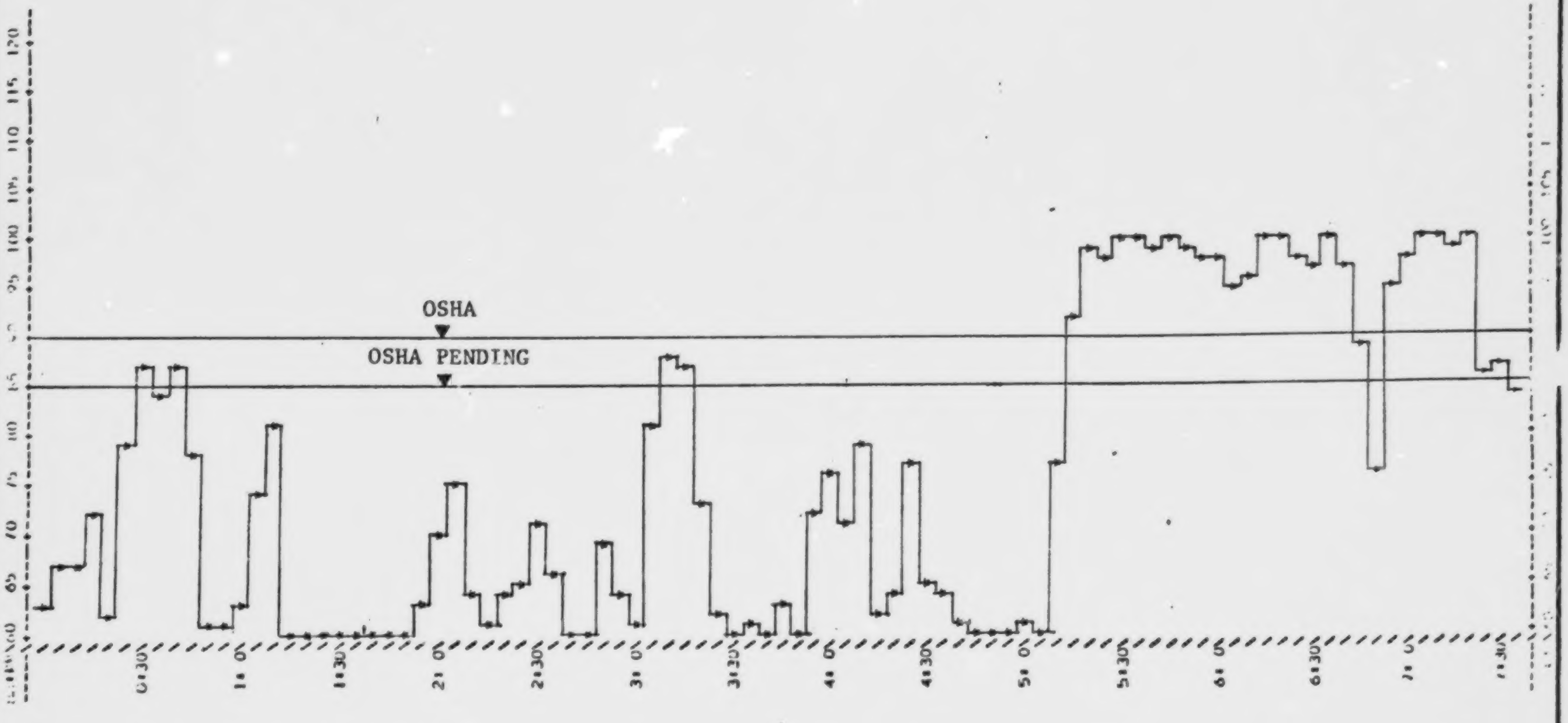
TOTAL NO. OF DATA POINTS = 480

Number of computations = 459

⑲

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑳

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 05/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0280
 ENTER JOB CODE (3 CHARS) : 001

  1  26  85  1221   60   64    4    1
  18458      110112  458
 66  75  65  60  61  60  60  60  64  60  60  63  60  60  60  60
 60  62  74  63  60  74  72  65  67  65  60  61  63  63  62  69
 60  60  68  75 .68  61  60  69  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  62  62  60  60  60  60  73  62  68  63
 69  66  63  71  69  72  67  72  72  86  85  72  79  77  77  69
 72  70  90  92  91  93  90  85  84  85  85  84  88  87  78  78
 93  96  83  93  87  85  78  92  84  86  82  82  78  73  76  88
 84  82  76  82  82  71  65  62  60  60  60  60  60  60  60  60
 60  60  60  60  61  61  65  60  60  60  82  86  81  67  71  64
 77  76  69  74  65  63  63  66  68  65  60  66  75  78  60  68
 69  69  66  65  74  78  67  74  69  67  67  68  60  60  60  67
 67  60  71  60  80  81  90  92  92  87  71  67  66  61  89  87
 64  63  72  65  62  64  66  69  65  60  69  82  79  76  76  74
 61  63  61  65  67  78  79  77  78  85  81  76  83  75  60  64
 77  84  82  82  66  69  77  82  86  87  81  62  68  87  85  73
 82  70  60  72  81  84  93  92  66  71  62  72  82  82  87  76
 71  68  63  61  85  70  63  63  60  68  65  69  72  70  81  84
 83  77  60  60  60  60  60  67  63  64  60  60  61  60  61  60
 60  60  60  60  60  60  60  60  62  60  60  60  60  60  60  60
 66  60  60  60  60  60  60  60  62  60  60  60  60  60  88  91
 90  90  92  95  98  61  61  60  60  60  61  97 101 102  97  95
 88  60  77  96  96  95  88  71  61  60  80  79  76  81  78  75
 82  80  77  72  70  84  79  60  76  89  96  94  86  80  96 102
 77  62  64  61  73  84  86  90  76  79  84  77  85  86  86  85
 88  94  91  78  60  92  89  90  89  93  92  87  87  87  88  87
 88  88  88  88  91  96  94  87  73  62  60  60  60  62  60  60
 65  64  64  60  80  76  79  72  60  60  71  88  95  83  60  62
 75  79  60  60  62  89  90  89  90 .91  91  91  91  89  87  85
 87  90  85  60  85  89  88  88  91  90  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 5 JUNE 1979              DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : CRUSH
 SERIAL NUMBER : 1221                          JOB CODE : 001
      BASELINE : 60 DB                        USER CODE : 0280
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110112
 TEST DURATION =   7:38:48                 STANDBY TIME =   1:16:54

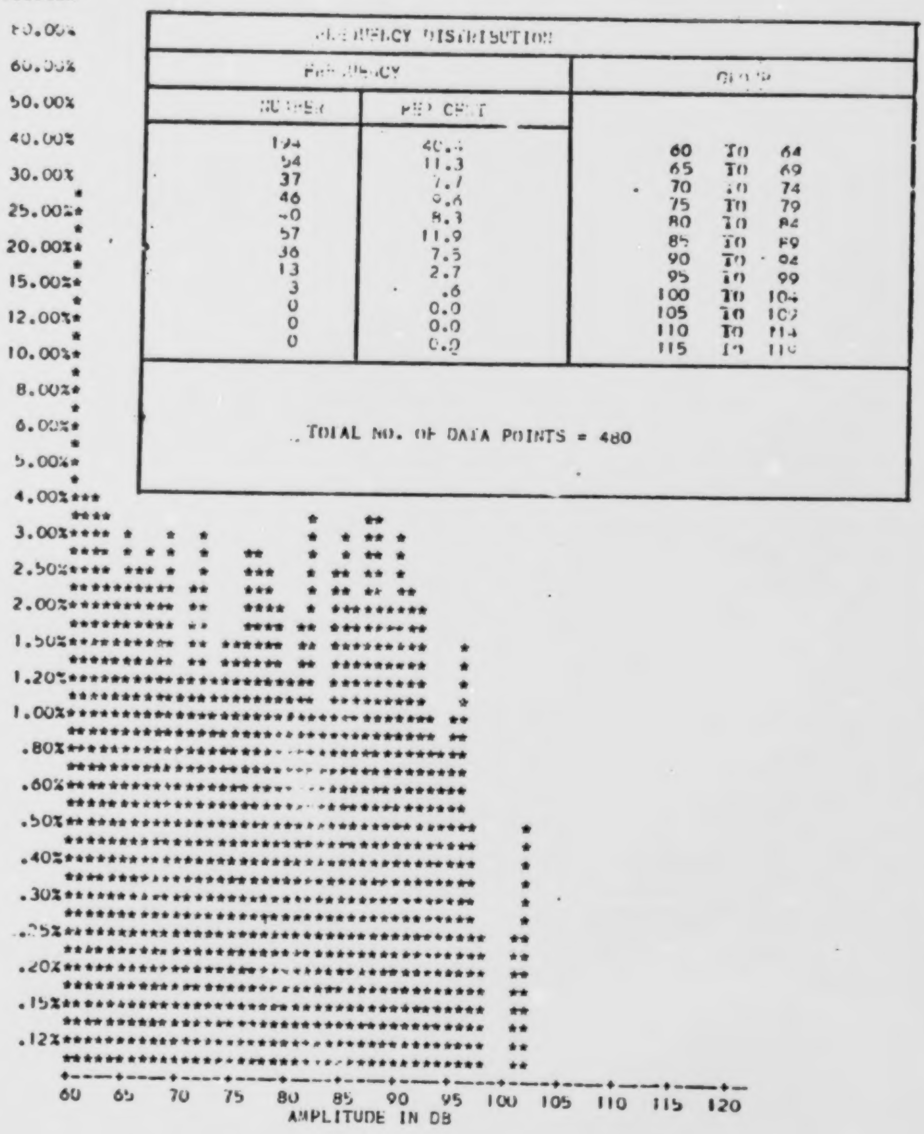
          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 458
 PERIOD =  1 MINUTES

 TIME
 HOUR          LOSHA                          %DOSE
        CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
    1     64.3      64.3                .354       .35
    2     83.7      79.2               5.245      5.60
    3     70.0      77.2                .777      6.38
    4     80.0      78.0               3.113      9.49
    5     75.9      77.6               1.774     11.26
    6     86.9      80.2               8.122     19.38
    7     87.5      81.8               8.799     28.18
    8     86.0      82.3               4.571     32.75
 MIN. COMP. =  60 DB                 MAX. COMP. = 102 DB
 ARITHMETIC MEAN =  72 DB
 STD. DEVIATION =  12 DB
 VARIANCE =144 DB
```

⑳

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
194	40.4	60 TO 64
54	11.3	65 TO 69
37	7.7	70 TO 74
46	9.6	75 TO 79
40	8.3	80 TO 84
57	11.9	85 TO 89
36	7.5	90 TO 94
13	2.7	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

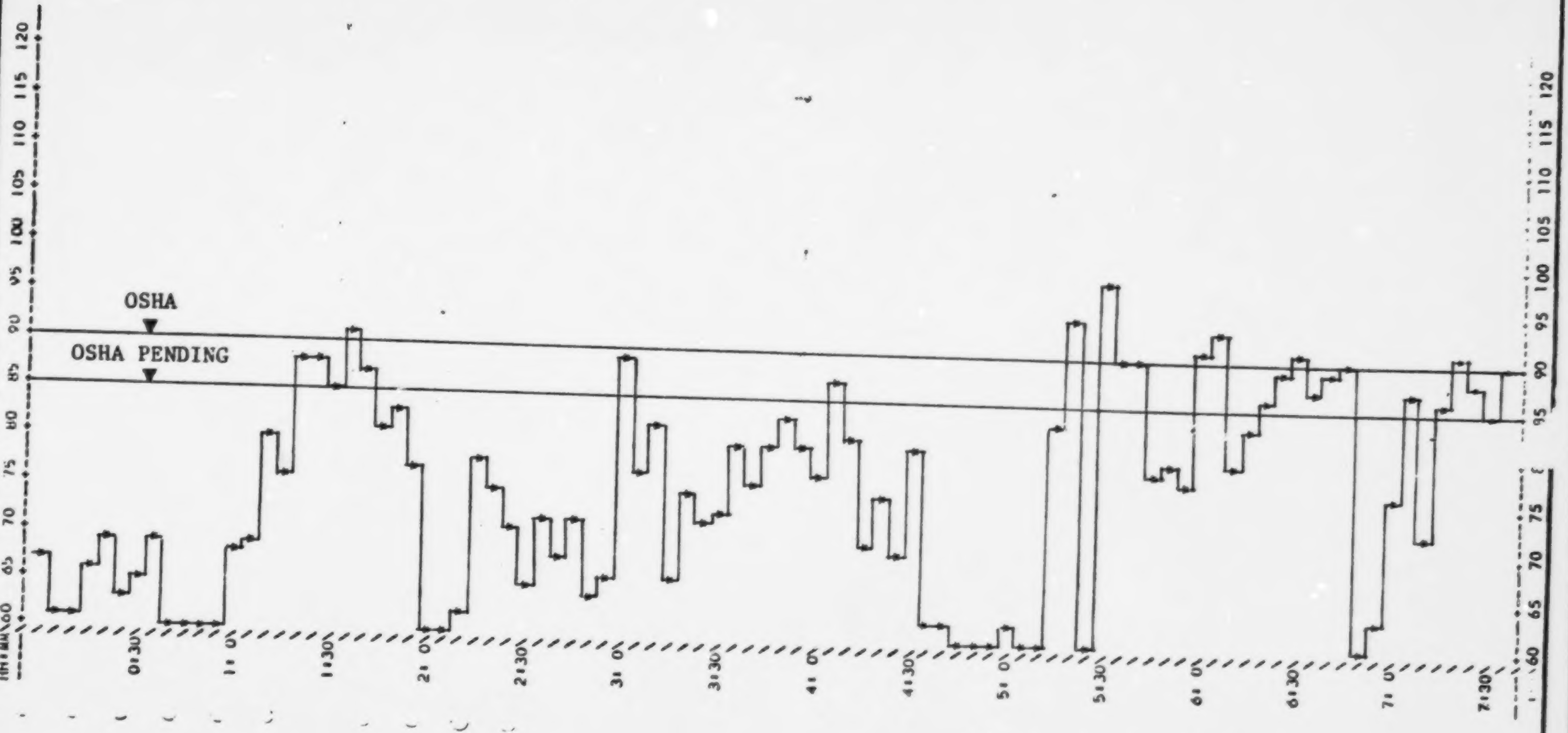
TOTAL NO. OF DATA POINTS = 480

Number of computations = 458

COMPRESSED TIME HISTORY

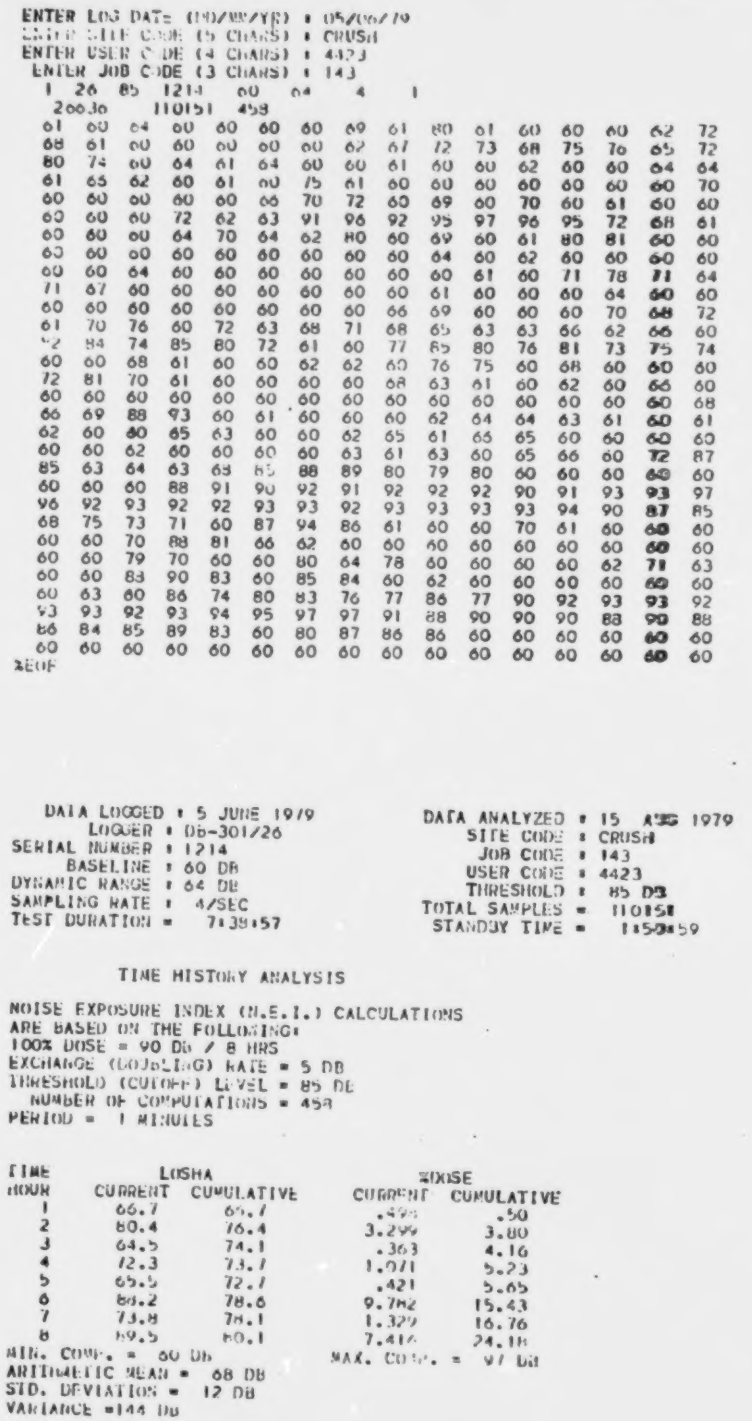
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



㉑

Mechanic



```
ENTER LOG DATE (DD/MM/YR) : 05/06/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 4423
 ENTER JOB CODE (3 CHARS) : 143
  1  26  85  1214   60   64    4    1
   20030    110151   459
  61  60  64  60  60  60  60  69  61  80  61  60  60  60  62  72
  68  61  60  60  60  60  60  62  67  72  73  68  75  76  65  72
  80  74  60  64  61  64  60  60  61  60  60  62  60  60  64  64
  61  65  62  60  61  60  75  61  60  60  60  60  60  60  60  70
  60  60  60  60  60  66  70  72  60  69  60  70  60  61  60  60
  60  60  60  72  62  63  91  96  92  95  97  96  95  72  68  61
  60  60  60  64  70  64  62  80  60  69  60  61  80  81  60  60
  60  60  60  60  60  60  60  60  60  64  60  62  60  60  60  60
  60  60  64  60  60  60  60  60  60  60  61  60  71  78  71  64
  71  67  60  60  60  60  60  60  60  61  60  60  60  64  60  60
  60  60  60  60  60  60  60  60  66  69  60  60  60  70  68  72
  61  70  76  60  72  63  68  71  68  65  63  63  66  62  66  60
  72  84  74  85  80  72  61  60  77  65  80  76  81  73  75  74
  60  60  68  61  60  60  62  62  60  76  75  60  68  60  60  60
  72  81  70  61  60  60  60  60  68  63  61  60  62  60  66  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  68
  66  69  88  93  60  61  60  60  60  62  64  64  63  61  60  61
  62  60  80  65  63  60  60  62  65  61  66  65  60  60  60  60
  60  60  62  60  60  60  60  63  61  63  60  65  66  60  72  87
  85  63  64  63  68  85  88  89  80  79  80  60  60  60  60  60
  60  60  60  88  91  90  92  91  92  92  92  90  91  93  93  97
  96  92  93  92  92  93  93  92  93  93  93  93  94  90  87  85
  68  75  73  71  60  87  94  86  61  60  60  70  61  60  60  60
  60  60  70  88  81  66  62  60  60  60  60  60  60  60  60  60
  60  60  79  70  60  60  80  64  78  60  60  60  60  62  71  63
  60  60  83  90  83  60  85  84  60  62  60  60  60  60  60  60
  60  63  80  86  74  80  83  76  77  86  77  90  92  93  93  92
  93  93  92  93  94  95  97  97  91  88  90  90  90  88  90  88
  86  84  85  89  83  60  80  87  86  86  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED : 5 JUNE 1979               DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : CRUSH
 SERIAL NUMBER : 1214                           JOB CODE : 143
      BASELINE : 60 DB                         USER CODE : 4423
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  110151
 TEST DURATION =   7:39:57                  STANDBY TIME =   1:50:59

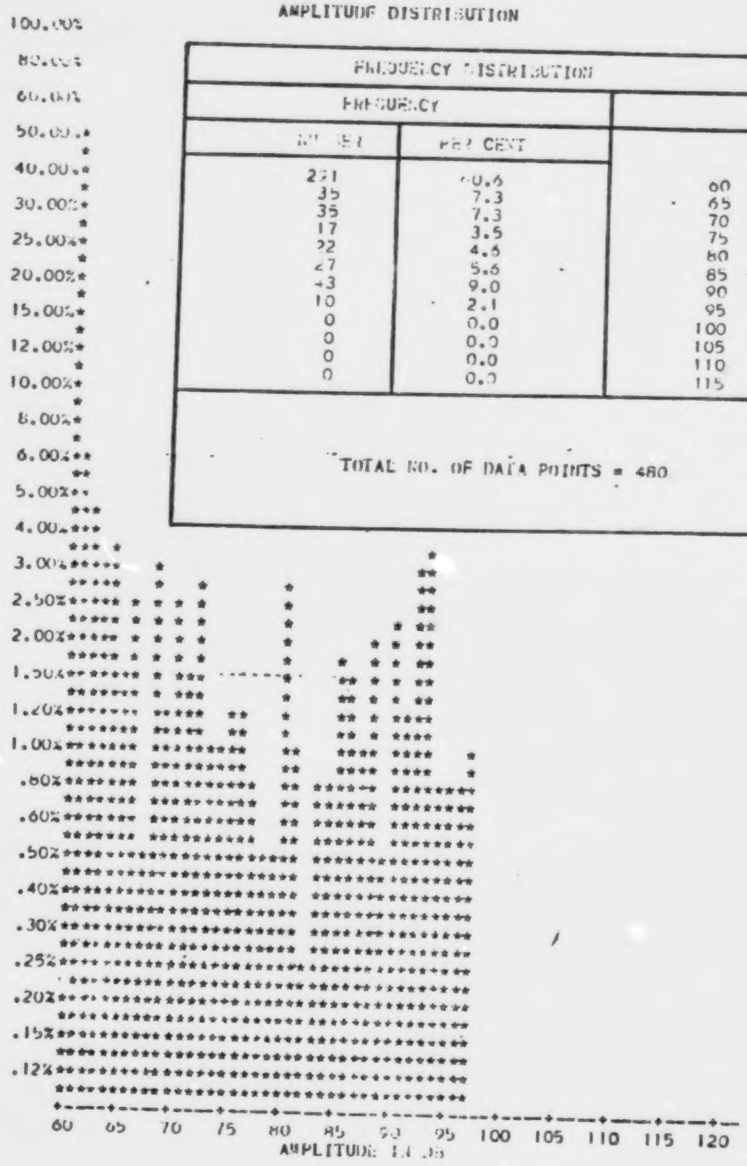
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 459
PERIOD =  1 MINUTES

TIME           LOSHA                         %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       66.7      66.7               .498       .50
   2       80.4      76.4              3.299      3.80
   3       64.5      74.1               .363      4.16
   4       72.3      73.7              1.071      5.23
   5       65.5      72.7               .421      5.65
   6       88.2      78.6              9.782     15.43
   7       73.8      78.1              1.329     16.76
   8       89.5      80.1              7.416     24.18
MIN. COMP. =  60 DB                 MAX. COMP. =  97 DB
ARITHMETIC MEAN =  68 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

㉑

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
291	60.6	60 TO 64
35	7.3	65 TO 69
35	7.3	70 TO 74
17	3.5	75 TO 79
22	4.6	80 TO 84
27	5.6	85 TO 89
43	9.0	90 TO 94
10	2.1	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

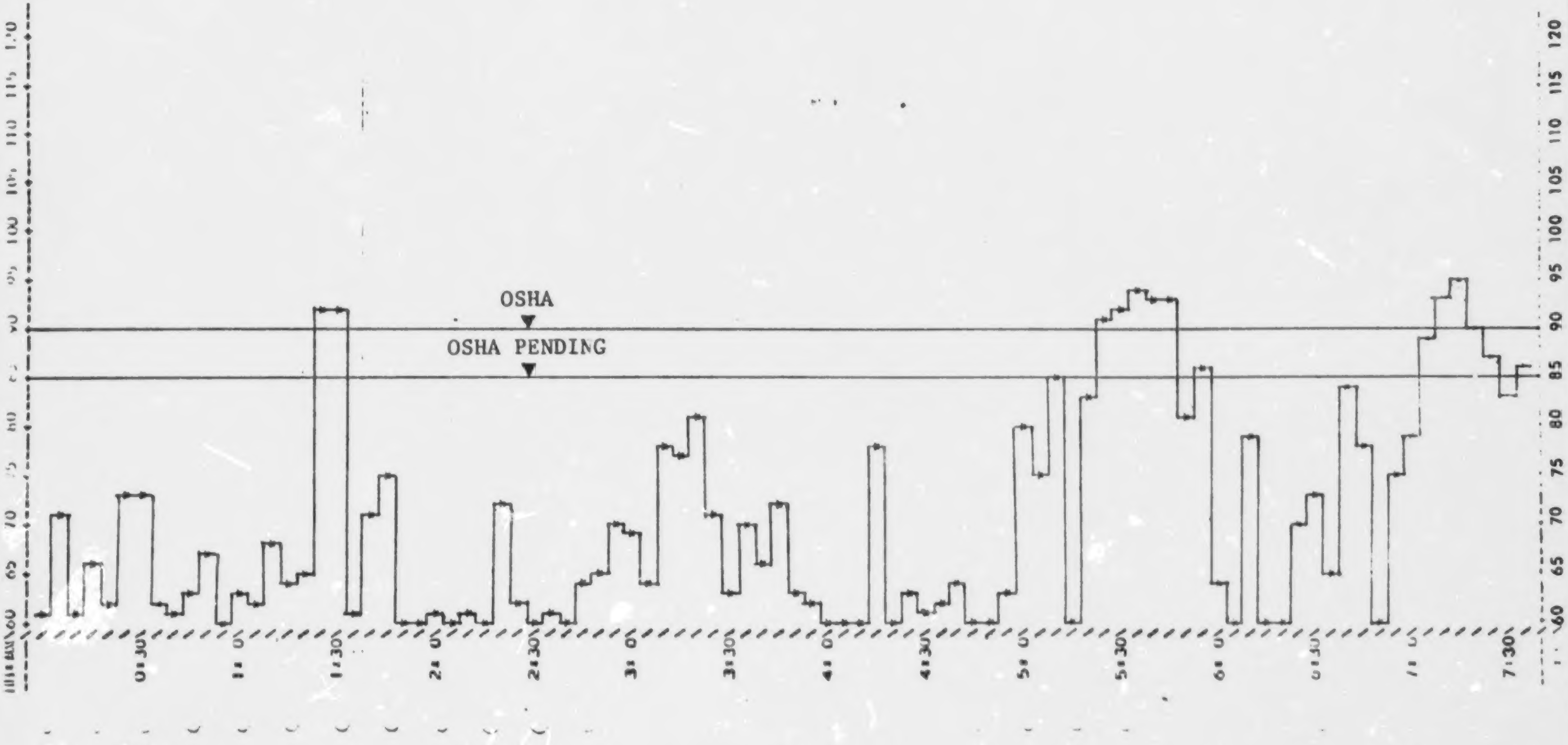
TOTAL NO. OF DATA POINTS = 480

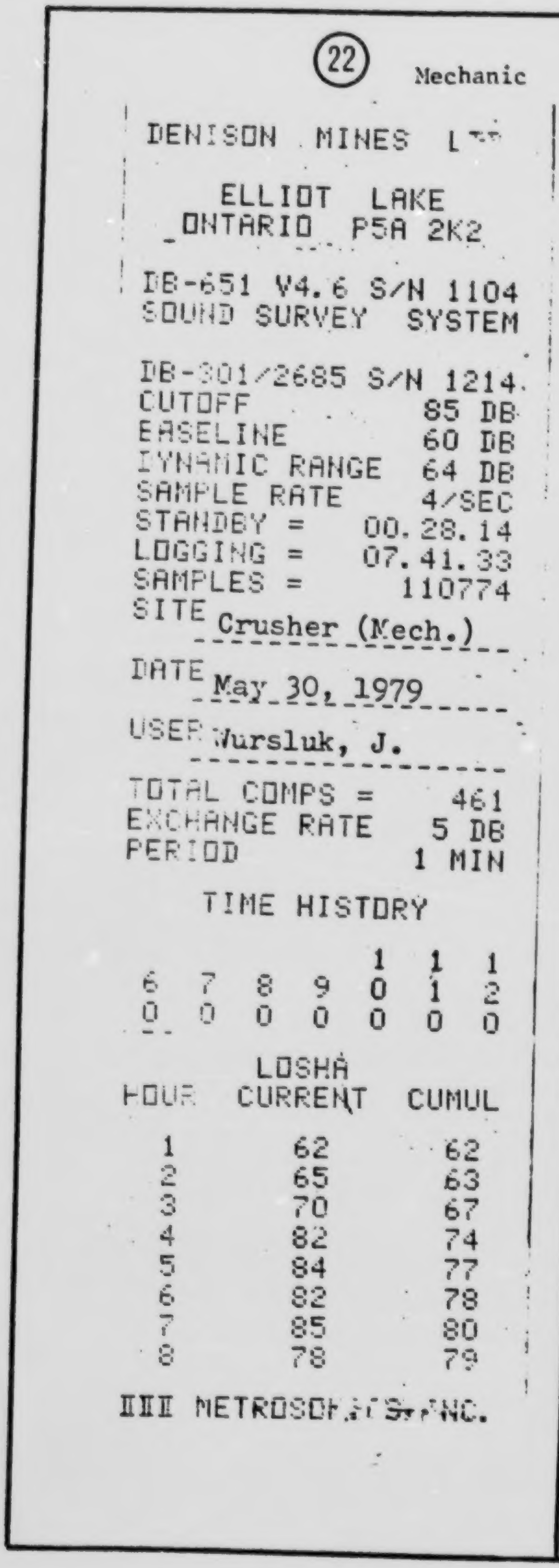
Number of computations = 458

㉑

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)





㉒ Mechanic

```
DENISON  MINES  LTD

   ELLIOT  LAKE
 ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1214
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    00.28.14
LOGGING =    07.41.33
SAMPLES =      110774
SITE Crusher (Mech.)
DATE May 30, 1979
USER Wursluk, J.
TOTAL COMPS =     461
EXCHANGE RATE    5 DB
PERIOD          1 MIN

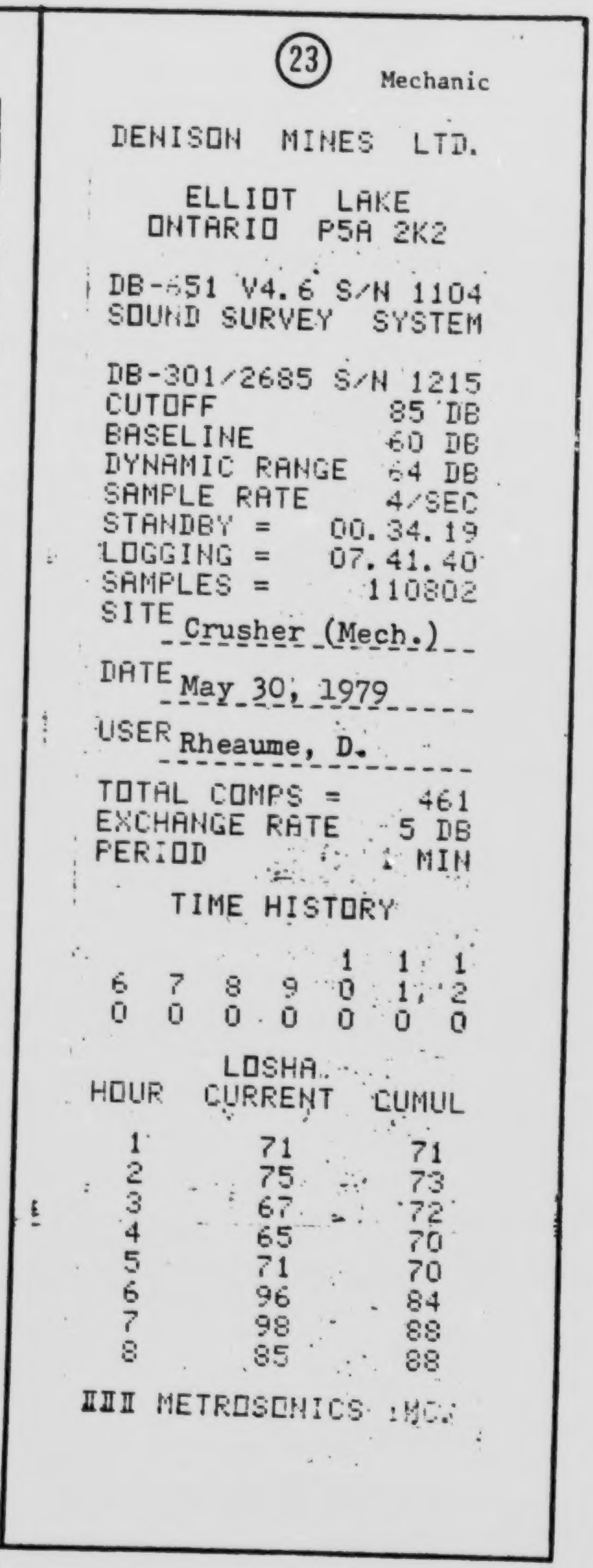
    TIME HISTORY

                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

       LOSHA
HOUR  CURRENT   CUMUL

 1      62       62
 2      65       63
 3      70       67
 4      82       74
 5      84       77
 6      82       78
 7      85       80
 8      78       79

III METROSONICS, INC.
```



㉓ Mechanic

```
DENISON  MINES  LTD.

   ELLIOT  LAKE
 ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1215
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    00.34.19
LOGGING =    07.41.40
SAMPLES =      110802
SITE Crusher (Mech.)
DATE May 30, 1979
USER Rheaume, D.
TOTAL COMPS =     461
EXCHANGE RATE    5 DB
PERIOD          1 MIN

    TIME HISTORY

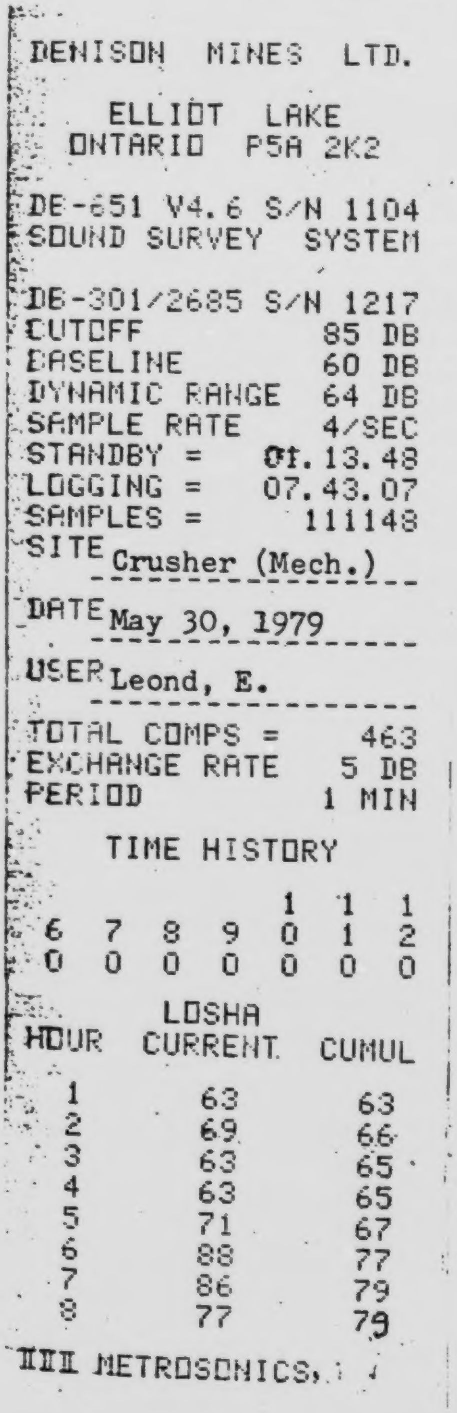
                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

       LOSHA
HOUR  CURRENT   CUMUL

 1      71       71
 2      75       73
 3      67       72
 4      65       70
 5      71       70
 6      96       84
 7      98       88
 8      85       88

III METROSONICS INC.
```

㉔ **Mechanic**



```
DENISON  MINES  LTD.

    ELLIOT  LAKE
  ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1217
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    01.13.48
LOGGING =    07.43.07
SAMPLES =      111148
SITE Crusher (Mech.)
    -----------------
DATE May 30, 1979
    -----------------
USER Leond, E.
    -----------------
TOTAL COMPS =     463
EXCHANGE RATE    5 DB
PERIOD          1 MIN

    TIME HISTORY

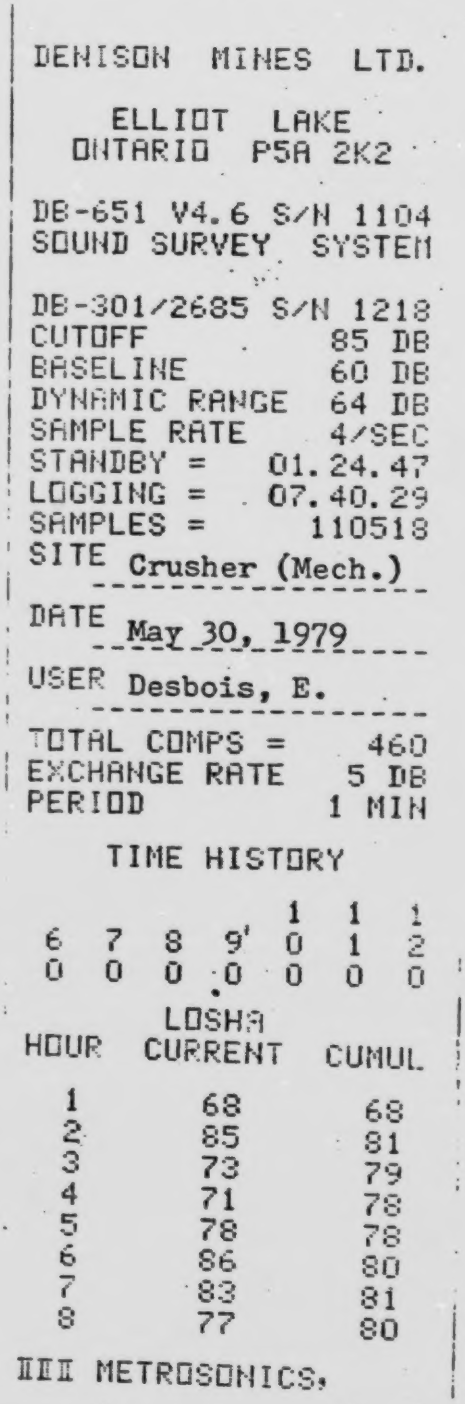
                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

        LOSHA
HOUR   CURRENT   CUMUL

  1      63       63
  2      69       66
  3      63       65
  4      63       65
  5      71       67
  6      88       77
  7      86       79
  8      77       79

III METROSONICS,
```

㉕ **Mechanic**



```
DENISON  MINES  LTD.

    ELLIOT  LAKE
  ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1218
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    01.24.47
LOGGING =    07.40.29
SAMPLES =      110518
SITE Crusher (Mech.)
    -----------------
DATE May 30, 1979
    -----------------
USER Desbois, E.
    -----------------
TOTAL COMPS =     460
EXCHANGE RATE    5 DB
PERIOD          1 MIN

    TIME HISTORY

                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

        LOSHA
HOUR   CURRENT   CUMUL

  1      68       68
  2      85       81
  3      73       79
  4      71       78
  5      78       78
  6      86       80
  7      83       81
  8      77       80

III METROSONICS,
```

㉖ Mechanic

```
DENISON  MINES  LTD.

   ELLIOT  LAKE
 ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1219
CUTOFF           85 DB
BASELINE         60 DB
DYNAMIC RANGE    64 DB
SAMPLE RATE     4/SEC
STANDBY =    00.54.58
LOGGING =    07.43.18
SAMPLES =      111194
SITE Crusher (Mech.)
    ------------------
DATE May 30, 1979
    ------------------
USER Hickey, G.
    ------------------
TOTAL COMPS =     463
EXCHANGE RATE    5 DB
PERIOD          1 MIN

    TIME HISTORY

                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

        LOSHA
HOUR   CURRENT    CUMUL

  1       63        63
  2       71        68
  3       68        68
  4       71        69
  5       64        68
  6       87        77
  7       86        79
  8       75        79

III METROSONIC   .C.
```

㉗ Mechanic

```
DENISON  MINES  LTD.

   ELLIOT  LAKE
 ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1220
CUTOFF           85 DB
BASELINE         60 DB
DYNAMIC RANGE    64 DB
SAMPLE RATE     4/SEC
STANDBY =    01.08.45
LOGGING =    07.44.37
SAMPLES =      111511
SITE Crusher (Mech.)
    ------------------
DATE May 30, 1979
    ------------------
USER Punkkenen, A.
    ------------------
TOTAL COMPS =     464
EXCHANGE RATE    5 DB
PERIOD          1 MIN

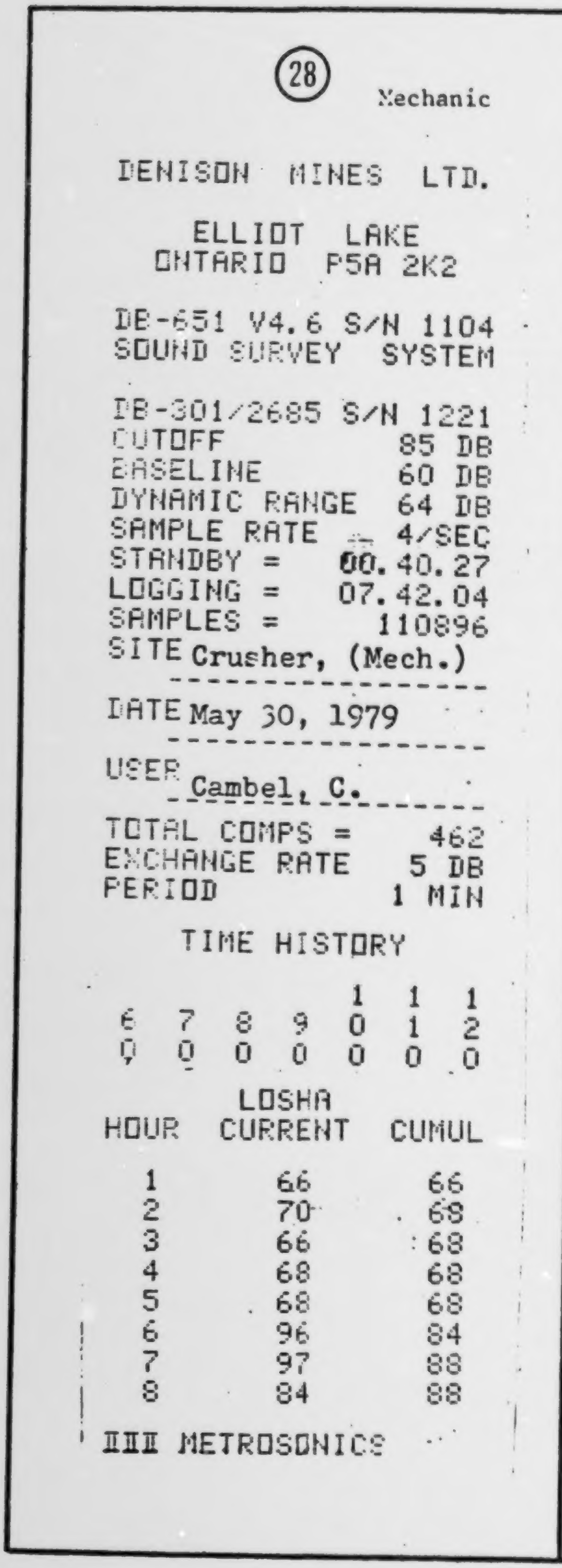
    TIME HISTORY

                1  1  1
 6  7  8  9  0  1  2
 0  0  0  0  0  0  0

        LOSHA
HOUR   CURRENT    CUMUL

  1       68        68
  2       71        69
  3       64        68
  4       70        69
  5       74        70
  6       86        76
  7       84        78
  8       76        78

III METROSONICS
```



㉘ Mechanic

```
DENISON  MINES  LTD.

    ELLIOT  LAKE
  ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1221
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    00.40.27
LOGGING =    07.42.04
SAMPLES =      110896
SITE Crusher, (Mech.)
    -----------------
DATE May 30, 1979
    -----------------
USER
    _Cambel, C.______
TOTAL COMPS =     462
EXCHANGE RATE   5 DB
PERIOD          1 MIN

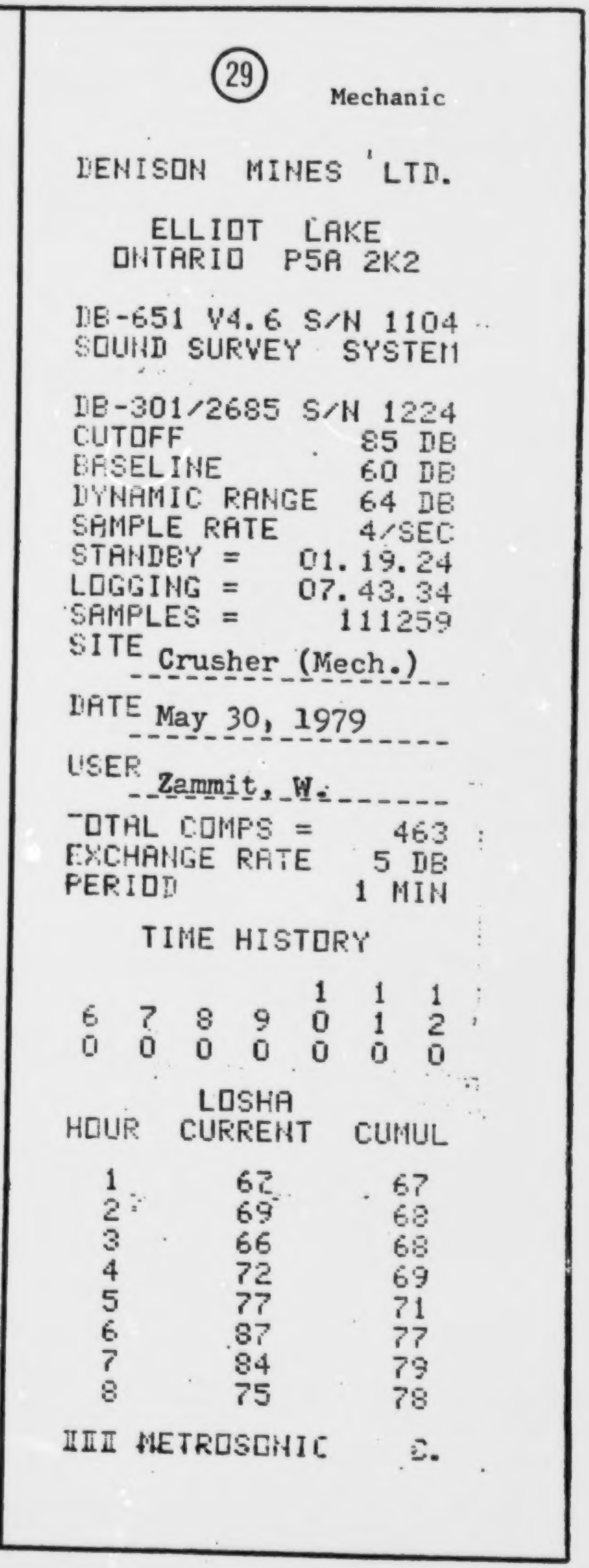
    TIME HISTORY

                1  1  1
6  7  8  9  0  1  2
0  0  0  0  0  0  0

       LOSHA
HOUR  CURRENT  CUMUL

  1      66      66
  2      70      68
  3      66      68
  4      68      68
  5      68      68
  6      96      84
  7      97      88
  8      84      88

III METROSONICS
```



㉙ Mechanic

```
DENISON  MINES  LTD.

    ELLIOT  LAKE
  ONTARIO  P5A 2K2

DB-651 V4.6 S/N 1104
SOUND SURVEY  SYSTEM

DB-301/2685 S/N 1224
CUTOFF          85 DB
BASELINE        60 DB
DYNAMIC RANGE   64 DB
SAMPLE RATE     4/SEC
STANDBY =    01.19.24
LOGGING =    07.43.34
SAMPLES =      111259
SITE
    _Crusher (Mech.)___
DATE May 30, 1979
    -----------------
USER
    __Zammit, W.______
TOTAL COMPS =     463
EXCHANGE RATE   5 DB
PERIOD          1 MIN

    TIME HISTORY

                1  1  1
6  7  8  9  0  1  2
0  0  0  0  0  0  0

       LOSHA
HOUR  CURRENT  CUMUL

  1      67      67
  2      69      68
  3      66      68
  4      72      69
  5      77      71
  6      87      77
  7      84      79
  8      75      78

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```

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Welder

```
ENTER LOG DATE (DD/MM/YR) : 04/05/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0547
 ENTER JOB CODE (3 CHARS) : 014
  1  26  85  1221    60   64     4     1
   3/301      109580  456
  69  61  60  60  60  60  60  60  63  65  62  60  60  60  89  84
  61  75  84  89  87  86  75  83  60  60  64  60  60  60  60  60
  60  69  66  77  63  60  60  67  64  60  60  60  60  60  65  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  63  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  81  77  80  69
  60  60  60  60  60  82  89  70  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  62  60  60  60  60  60  65  66
  65  68  69  77  65  60  60  60  60  65  75  60  60  60  60  65
  63  68  82  80  85  85  84  76  64  60  60  62  77  60  64  63
  62  60  60  62  69  67  60  62  61  65  80  81  71  83  78  87
  90  60  88  89  88  67  61  69  60  62  67  60  60  60  60  60
  60  60  60  60  71  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  68  87  89  89  89  89  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  90  84  79  81  84  85
  85  86  86  86  84  83  84  76  85  85  85  82  72  64  70  72
  77  87  87  77  70  90  99 101  97  95  86  66  64  77  69  67
  85  90  64  63  62  60  75  71  82  87  82  85  77  66  83  77
  75  83  64  68  64  80  78  79  89  77  82  83  77  64  93  91
  75  84  81  82  69  67  76  79  70  79  73  68  77  80  78  78
  73  77  75  79  79  83  86  85  78  85  82  85  82  79  84  77
  82  93  93  85  87  87  86  89  89  89  88  88  84  80  86  88
  87  89  80  80  90  87  85  87  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 4 JUNE 1979            DATA ANALYZED : 14  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : CRUSH
 SERIAL NUMBER : 1221                        JOB CODE : 0547
      BASELINE : 60 DB                      USER CODE : 014
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  109580
 TEST DURATION =   7:36:35               STANDBY TIME =   2:35:25

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 456
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR   CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      73.6        73.6           1.284        1.28
   2      60.1        69.6            .197        1.48
   3      68.0        69.1            .593        2.07
   4      72.8        70.2           1.146        3.22
   5      71.2        70.4            .920        4.14
   6      83.4        74.8           4.995        9.13
   7      81.8        76.3           4.000       13.14
   8      86.1        77.8           4.393       17.53
MIN. COMP. =  60 DB                MAX. COMP. = 101 DB
ARITHMETIC MEAN =  68 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
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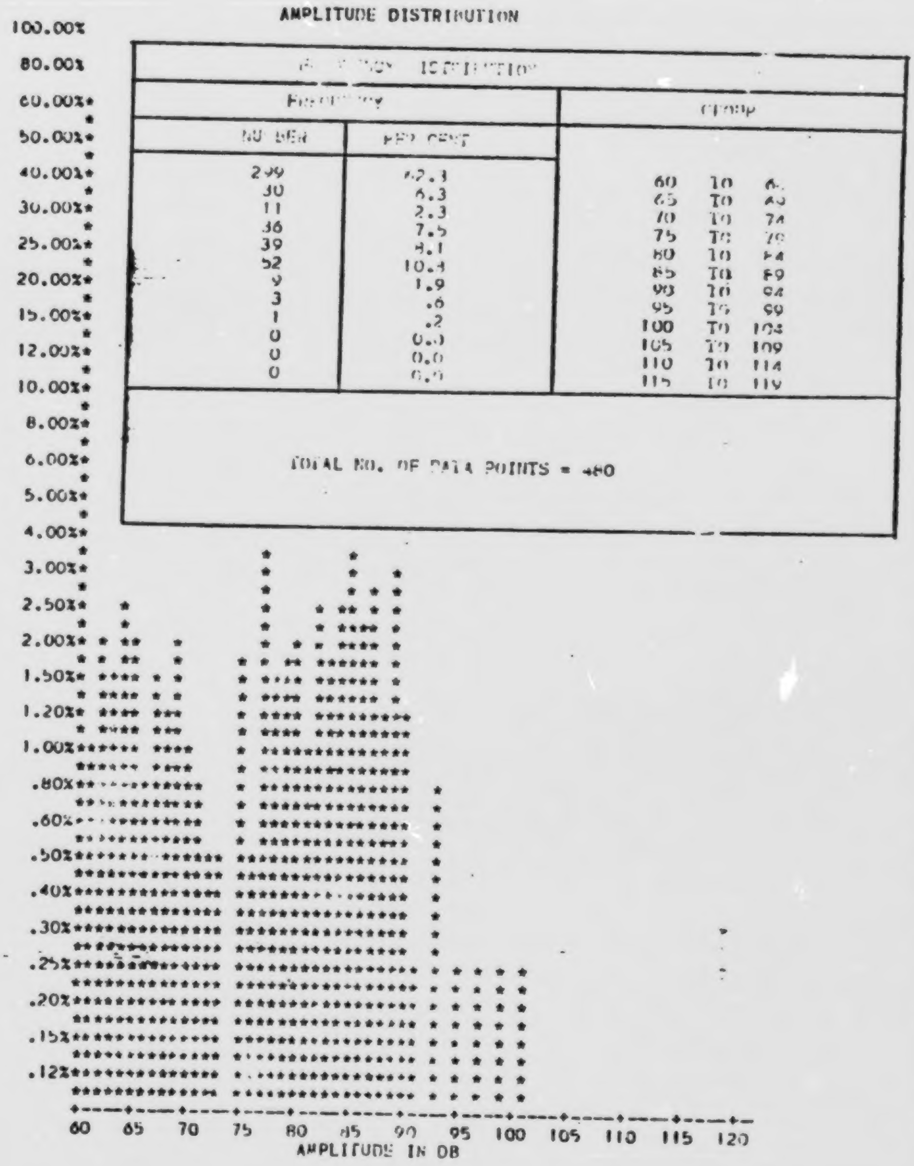


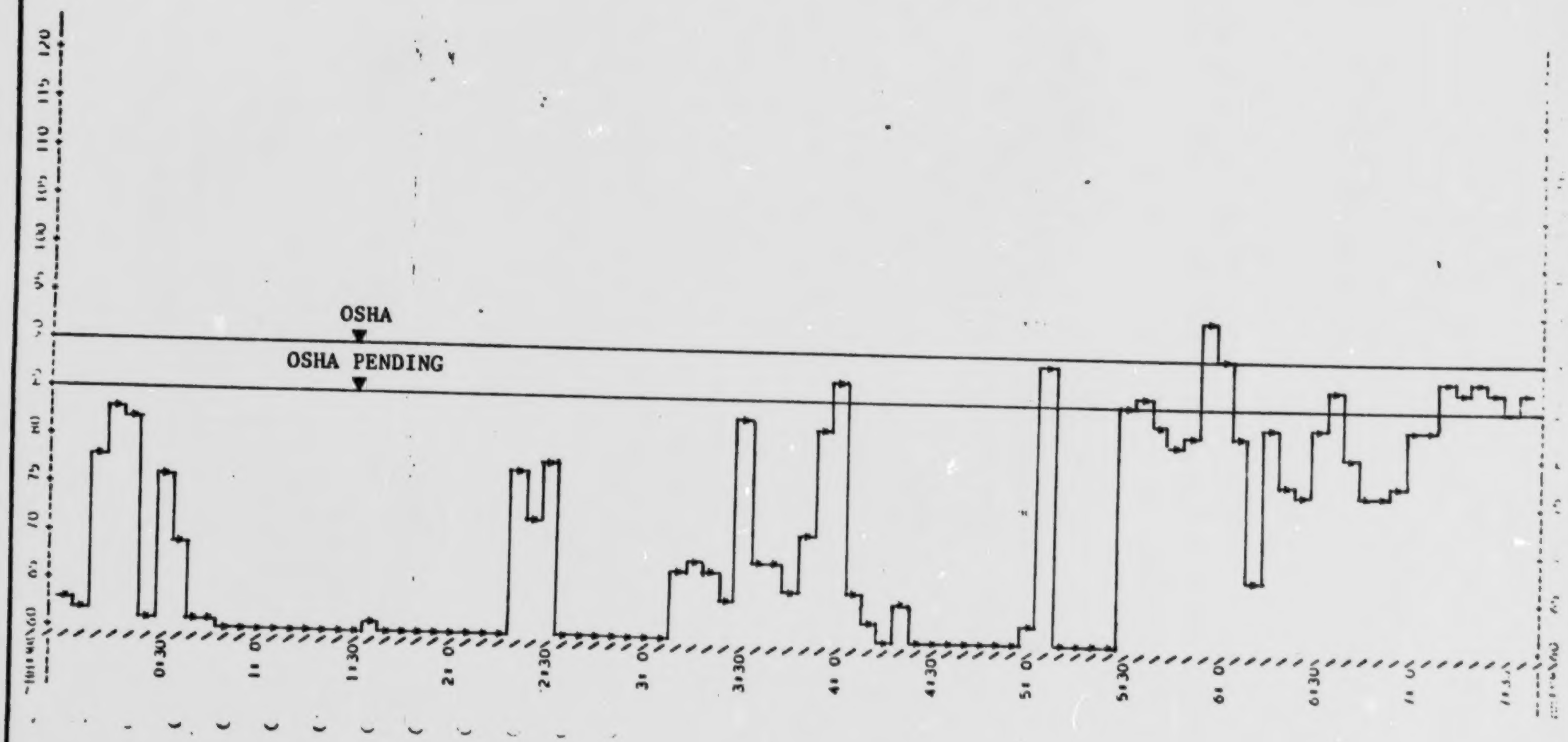
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
299	62.3	60 TO 64
30	6.3	65 TO 69
11	2.3	70 TO 74
36	7.5	75 TO 79
39	8.1	80 TO 84
52	10.8	85 TO 89
9	1.9	90 TO 94
3	.6	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 456

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (DBA)



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Welder

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ENTER LOG DATE (MO/DY/YR) : 04/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 4377
 ENTER JOB CODE (3 CHARS) : 014
  1   26   85   1220    60    64     4     1
   44094      108154  450
  70  64  62  70  74  61  68  74  76  77  60  76  60  60  73  75
  65  60  90  92  63  92  88  66  60  63  60  60  70  66  60  60
  69  60  69  64  66  62  77  74  60  63  63  60  60  63  64  64
  69  68  78  60  75  78  60  65  82  60  60  63  69  74  60  66
  63  93  63  74  60  60  60  60  60  75  75  60  68  65  60  74
  62  71  60  60  61  67  77  70  80  82  71  73  69  97  60  74
  82  78  85  84  60  67  73  60  60  68  60  60  67  76  60  71
  66  71  70  60  68  67  60  61  68  60  60  60  60  60  60  73
  69  60  60  60  60  61  60  60  64  70  67  60  60  62  65  66
  64  63  61  60  60  60  69  60  62  64  62  64  60  60  60  60
  62  60  62  62  60  60  61  64  74  64  79  55  69  62  61  67
  61  62  60  60  60  60  67  60  62  64  60  60  61  65  71  61
  60  61  62  60  60  60  60  60  61  73  60  60  60  60  60  60
  60  60  62  60  60  60  60  60  90  92  97  89  93  93  90  91
  88  88  88  84  86  85  85  70  68  66  70  76  67  73  63  60
  76  63  60  75  61  60  62  64  60  60  65  67  63  62  71  68
  60  60  60  60  60  60  60  60  60  60  60  60  61  81  86  60
  60  60  60  60  60  60  60  60  77  75  61  63  60  60  60  60
  60  60  60  60  60  65  60  60  68  60  70  74  87  95  97  96
  67  65  71  64  60  64  94 101  97  97  99  96  95  99  95  98
  97  97  99  94  95  92  92  96  96  90  95  96  96  79  83  93
  92  90  86  88  87  87  93  73  60  60  60  60  71  89  87  88
  86  88  94  92  91  87  94  94  96  94  94  95  95  95  95  94
  98  96  96  97  96  96  94  94  94  95  95  96  97  90  94  93
  91  77  65  61  64  71  67  61  70  65  76  78  82  87  92  94
  96 100 100  77  66  72  98  99 101  99  83  85  80  76  86  78
  93  93  81  83  81  81  84  81  79  78  90  70  87  91  97  98
  97  95  96  96  96  97  96  95  95  93  98  90  92  92  93  93
  71  64  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED : 4 JUNE 1979                  DATA ANALYZED : 14  AUG 1979
         LOGGER : DB-301/26                        SITE CODE : CRUSH
  SERIAL NUMBER : 1220                              JOB CODE : 4377
       BASELINE : 60 DB                            USER CODE : 014
  DYNAMIC RANGE : 64 DB                            THRESHOLD :  65 DB
  SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  108154
  TEST DURATION =   7:30:38                     STANDBY TIME =   3: 3:43

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 450
PERIOD =  1 MINUTES

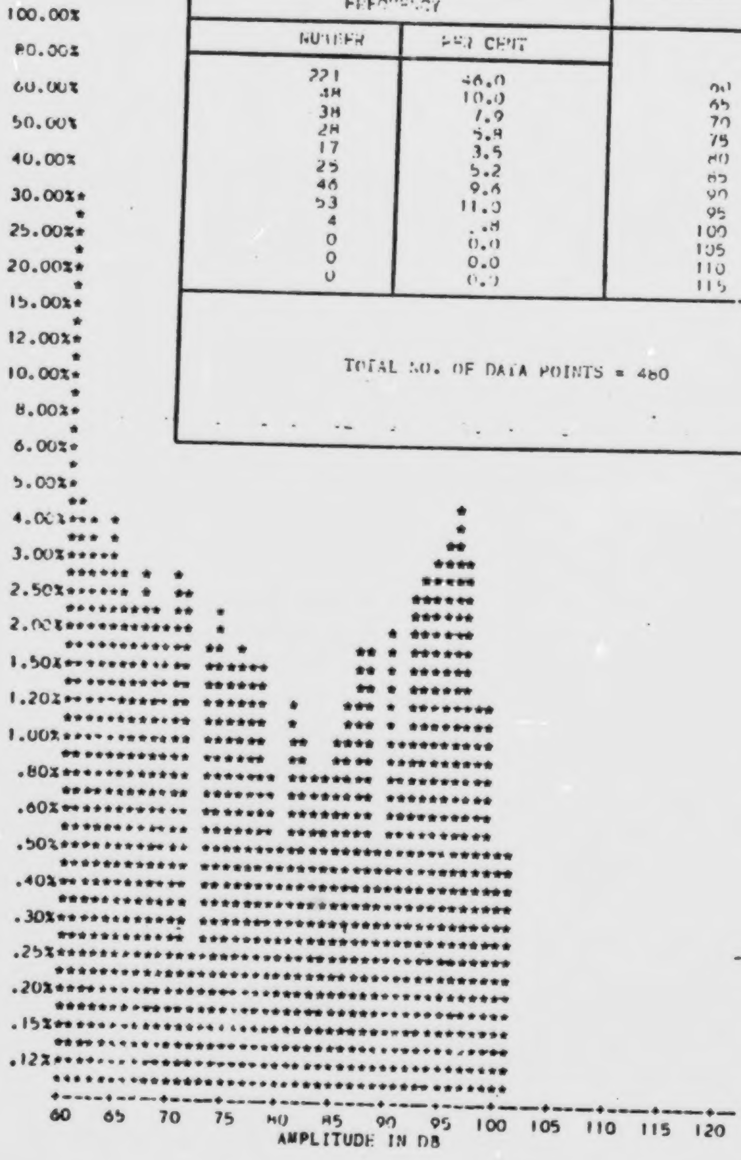
TIME           LOSHA                         %DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1       75.1       75.1            1.580       1.58
   2       76.1       75.6            1.818       3.40
   3       64.5       73.4             .362       3.76
   4       80.7       76.0            3.457       7.22
   5       67.4       75.0             .549       7.77
   6       92.4       82.1           17.468      25.23
   7       92.6       84.9           17.854      43.09
   8       92.4       85.7            8.756      51.84
MIN. COMP. =  60 DB                  MAX. COMP. = 101 DB
ARITHMETIC MEAN =  73 DB
STD. DEVIATION =  14 DB
VARIANCE =196 DB
```

31

Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
221	46.0	60 TO 64
48	10.0	65 TO 69
38	7.9	70 TO 74
28	5.8	75 TO 79
17	3.5	80 TO 84
25	5.2	85 TO 89
46	9.6	90 TO 94
53	11.0	95 TO 99
4	.8	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

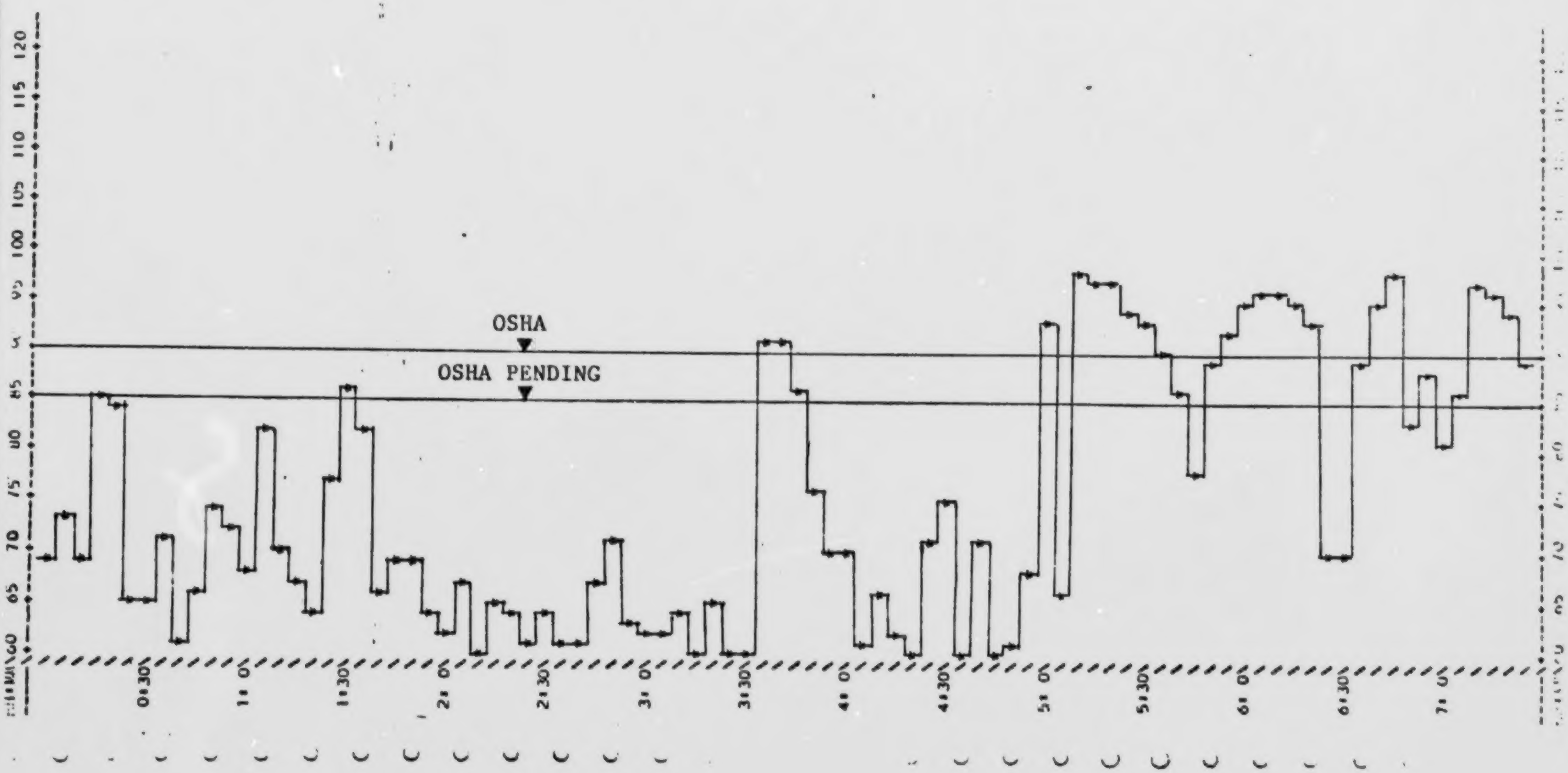


Number of computations = 450

(31)

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



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Welder

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ENTER LOG DATE (DD/MM/YR) : 04/06/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0132
 ENTER JOB CODE (3 CHARS) : 004

  1  26  85  1219   60   64    4    1
  54415     104843  436
 78  60  60  60  60  65  60  60  60  60  60  60  60  74  60  60
 63  60  60  62  65  60  76  76  60  71  60  60  60  61  60  61
 60  60  60  63  62  62  60  60  61  60  60  72  61  76  70  60
 60  67  60  60  60  83  84  86  87  86  79  80  60  75  60  79
 81  67  65  67  68  74  73  63  73  74  63  64  65  86  72  60
 60  66  60  60  64  60  73  65  61  60  66  64  87  85  80  83
 61  84  87  79  60  79  62  62  68  85  92  90  62  60  60  61
 60  64  60  64  60  60  61  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  63  60  60  64  60
 60  64  77  60  60  60  67  60  60  74  70  77  64  64  60  64
 68  65  75  64  69  65  64  60  89  91  90  82  88  91  78  68
 60  64  60  61  61  71  63  65  66  70  60  70  64  65  67  61
 62  62  60  61  60  60  60  60  71  60  61  60  70  76  68  77
 78  86  64  60  71  80  83  84  88  91  92  94  95  95  96  96
 96  95  95  94  94  95  94  94  93  89  82  77  60  73  66  60
 60  63  60  60  74  77  60  61  64  62  63  62  69  60  60  60
 63  60  60  60  60  60  60  60  60  60  60  60  60  61  60  60
 60  77  60  60  60  60  60  60  60  60  60  60  60  71  62  60
 60  60  60  65  61  60  60  62  60  60  61  64  60  60  60  60
 60  62  60  60  60  60  60  69  96  80  66  60  91  60  60  66
 84  95  86  60  87  94  96  90  80  76  73  72  74  80  84  82
 88  94  89  86  91  86  79  82  89  85  75  81  85  76  80  80
 86  86  75  91  88  87  97  91  87  95  93  82  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  61  66  60
 60  61  63  60  77  91  81  78  77  96  88  84  79  68  70  87
 92  95  96 101  97  66  60  79  82  84  68  76  92  93  87  60
 61  60  60  81  83  86  86  82  83  81  72  60  65  60  60  60
 60  67  93  88  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


   DATA LOGGED : 4 JUNE 1979            DATA ANALYZED : 14  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : CRUSH
 SERIAL NUMBER : 1219                        JOB CODE : 004
      BASELINE : 60 DB                      USER CODE : 0132
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  104843
 TEST DURATION =   7:16:50               STANDBY TIME =   3:46:43

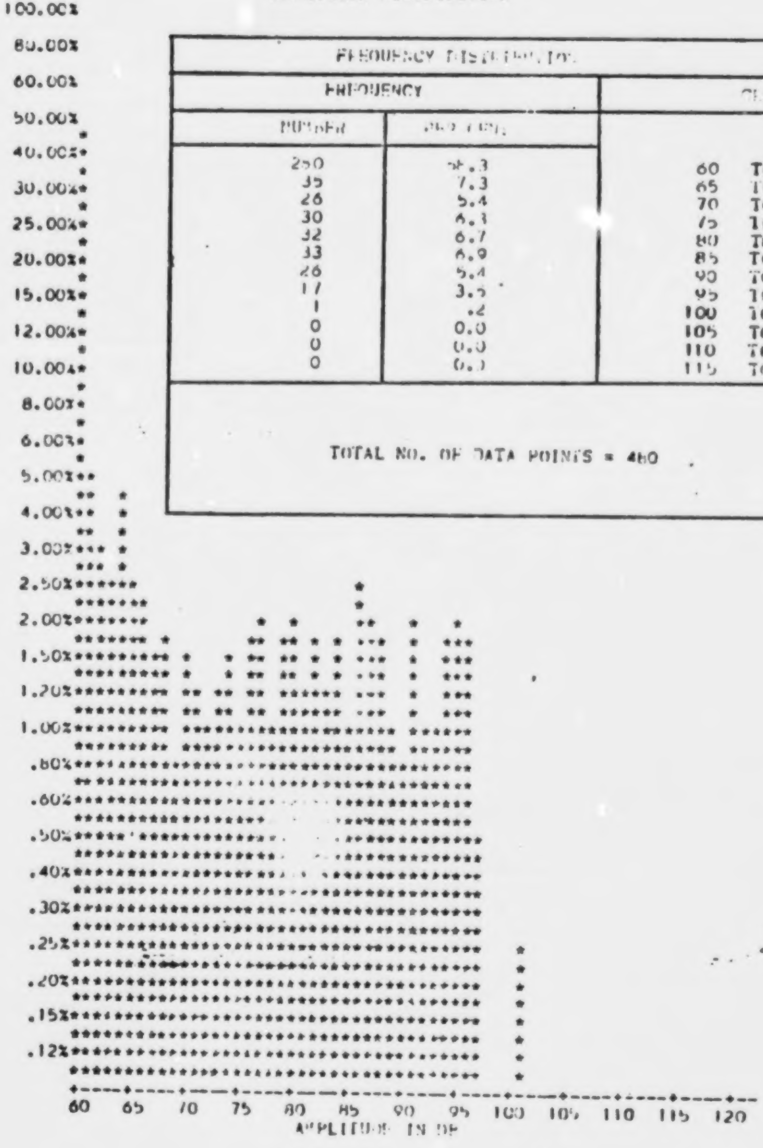
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD CUTOFF LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 436
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
  1       72.1       72.1          1.046       1.05
  2       76.2       74.4          1.842       2.89
  3       74.6       74.5          1.476       4.36
  4       86.1       79.5          7.276      11.64
  5       63.5       78.1           .316      11.96
  6       85.3       79.9          6.507      18.46
  7       84.8       80.8          6.098      24.56
  8       81.7       80.9          1.048      25.61
MIN. COMP. =  60 DB             MAX. COMP. = 101 DB
ARITHMETIC MEAN =  69 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

(32)

AMPLITUDE DISTRIBUTION



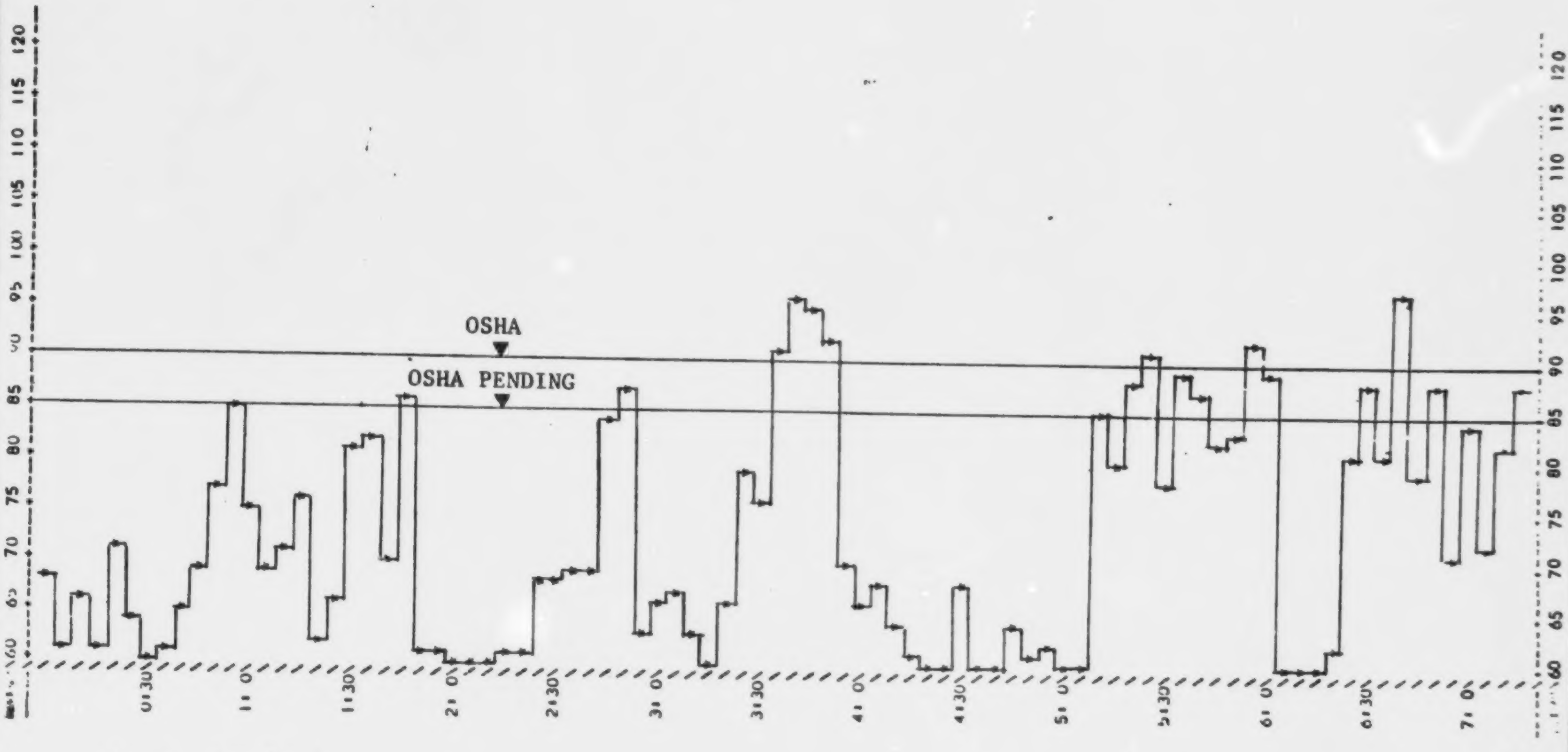
FREQUENCY DISTRIBUTION		
FREQUENCY		CLASS
NUMBER	PERCENT	
250	54.3	60 TO 64
35	7.3	65 TO 69
26	5.4	70 TO 74
30	6.3	75 TO 79
32	6.7	80 TO 84
33	6.9	85 TO 89
26	5.4	90 TO 94
17	3.5	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 460

Number of computations = 436

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



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VOL 4 A Report 2

81-50 M. Savich

Noise measurement in the
crushing and screening plant at
Denison Mines Ltd in Elliot Lake
1981

MESURE DU BRUIT DANS L'INSTALLATION DE CONCASSAGE ET DE CRIBLAGE DE LA DENISON MINES LTD. À ELLIOT LAKE

M.U. Savich*

RÉSUMÉ

Le niveau de bruit dans l'installation de concassage et de criblage est supérieur au niveau admissible de 90 dBA. L'installation peut être divisée en trois zones de niveau de bruit : niveau de bruit élevé (>96 dBA), moyen (>90 dBA) et faible (<90 dBA).

La mesure de l'indice d'exposition au bruit (IEB) a montré que seuls les opérateurs sont surexposés (L_{OSHA} = 91 dBA). Les autres catégories de travailleurs, mécaniciens, soudeurs et autres, sont exposés à des niveaux de bruit admissibles ($L_{OSHA} \leq$ 83 dBA).

Le modèle de dispositif de réduction du bruit a été réalisé pour un concasseur à cône Symons. Le prix de ce modèle a été estimé à 22 956 $. Pour atténuer le bruit dans l'installation complète, il faudrait effectuer des travaux très complexes.

---

*Chercheur scientifique, Laboratoire d'Elliot Lake, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENT IN THE CRUSHING AND SCREENING PLANT AT DENISON MINES LTD. IN ELLIOT LAKE

by

M.U. Savich*

ABSTRACT

The noise level in the crushing and screening plant is above the permissible level of 90 dBA. The plant can be divided according to noise level, into three areas: high (>96 dBA), medium (>90 dBA) and low noise level (<90 dBA).

The measurement of Noise Exposure Index (NEI) showed that only operators are over-exposed (L_{OSHA} = 91 dBA). Other categories of workers: mechanics, welders and others are exposed to permissible noise levels ($L_{OSHA} \leq$ 83 dBA).

The noise control design was made for a Symons cone crusher. The price for this design was estimated at $22,956. The attenuation of the whole plant would require very complex and complicated work.

---

* Research Scientist, Elliot Lake Laboratory, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario.

FOREWORD

As a part of the noise abatement program being conducted by the Noranda Research Centre, comprehensive noise surveys were planned in select Noranda Mines. Discussions with CANMET indicated a common interest in assessing noise in Canadian metal mines, so a joint program was established.

Objectives. To conduct a preliminary noise survey in the concentrator which would identify the major noise sources, their respective sound pressure levels, and typical personnel exposures.

Scope. The main noise sources in the concentrator were measured briefly using an octave band analyzer. Personal noise exposures of various operators and supervisorys personnel were measured later using personal noise dosimeters.

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1. INTRODUCTION

In industrial society, noise pollution is becoming more of a problem as noise levels increase. Hearing loss may result from exposure to a noisy work environment. Noise measurement in mines is directed toward the following objectives:

- estimation of the noise to which mine workers are exposed;
- control of noise sources "in situ";
- audiometric examination of mine workers subjected to prolonged exposure to high noise levels.

Criteria may be established for several purposes: operator hearing protection, community hearing protection, community noise annoyance and speech interference, to name a few. In this report the prime purpose is to establish the types of noise environments to which an operator of mines or heavy equipment might conceivably be exposed.

1.1 Hearing Loss from Noise Exposure

Occupational deafness is irreversible hearing loss (the permanent threshold shift - PTS). Hearing loss for a given sound is the difference in decibels between the hearing threshold for that sound and the threshold of hearing. Audiometric testing of miners who have been subjected to prolonged exposure to high noise levels will reveal enfeeblement of hearing acuity in the higher frequency ranges between 3000 and 6000 Hz (1).

A noise-induced hearing loss initially damages the sensitive hair cells in the organ of the Corti, causing a loss of acuity at 4000 Hz, and abbreviated as the C^5 dip (C^5 on the musical scale has a frequency of 4096 Hz). If a person's ability to hear conversational speech has not been affected, the hearing loss goes undetected in its temporary stage (the temporary threshold shift - TTS). These two types of hearing loss have many gradations

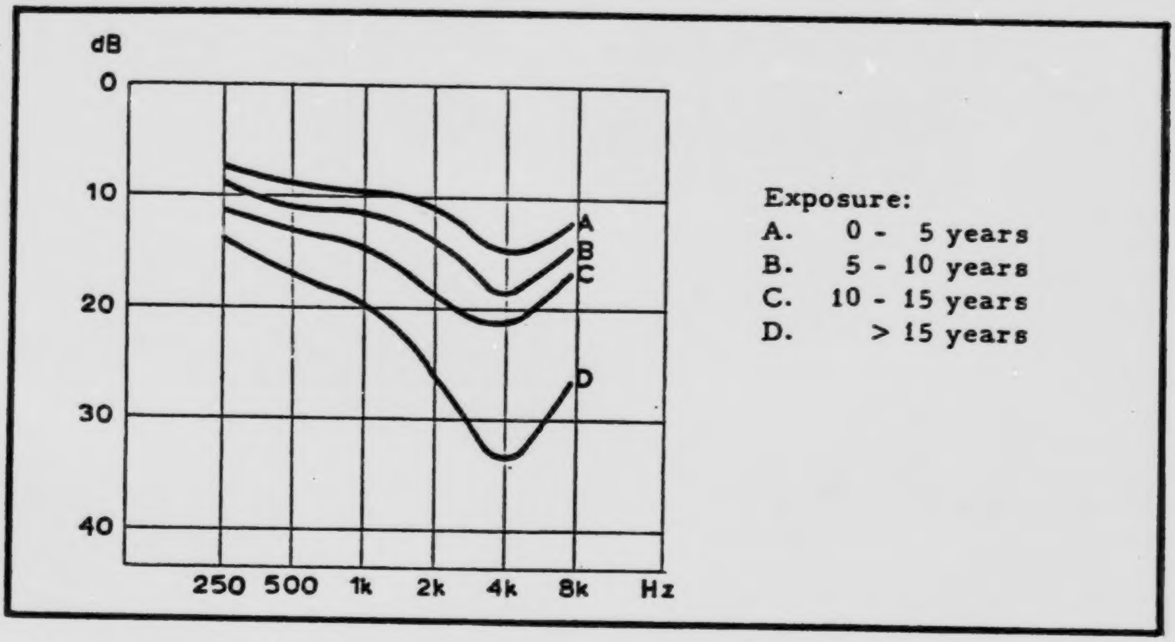

FIGURE 1: Mean Audiogram of Employees Exposed to Industrial Noise (1).

between them. In evaluating noise-induced hearing loss, the PTS should be measured after recovery of TTS, and PTS should be measured after termination of exposure, or before work commences.

A noise-induced hearing loss generally affects both ears in persons under 40 years of age. Some individuals seem more sensitive to loud sound than others (2). When examining the hearing of a mining or industrial community, the various non-occupational causes of hearing loss, in particular infection, during intoxication and presbycosis, should be kept in mind.

1.2 Hearing Loss Criteria

Mining (industrial) noises are a complex mixture of several notes having their individual frequencies, intensities, and distribution in time. The different types of noise are:

a) continual wide-band noise, i.e. noise including a wide range of frequencies, e.g. general mining or machine shop noise;

b) continual narrow-band noise, i.e. the sound energy is concentrated in a few frequencies, e.g. drill hammers and circular saws;

c) impact or impulse noise, i.e. short duration impulses, e.g. tapping and hammering (the noise is a change in sound pressure level of 40 dB or more within 0.5 seconds);

d) steady-state (continuous) repeated impact noise where a change in sound pressure level is less than 40 dB between successive 0.5 sec intervals, e.g. rivetting and breaking;

e) intermittent noise where there are several periods of steady-state noise with intervals of ambient noise, e.g. traffic and drilling noise.

Using time and level as the measure, there are four classes into which occupational noise exposures may be grouped:

1. long-term continuous noise,
2. short-term continuous noise,
3. intermittent equal-intensity noise, and
4. intermittent variable-intensity noise.

Long-term continuous noise is defined as noise of a constant level and spectrum to which a listener is exposed for 6 to 8 hours per day, 40 hours per week, 50 weeks per year. Most criteria are written for this type of operator exposure noise.

Short-term continuous noise is defined as broad-band noise at a constant level for less than 5 hours per day, 5 days per week, for life. The octave bands 500, 1000, and 2000 Hz are considered, because these bands are of importance in the protection of hearing for speech.

Intermittent equal noise exposure is defined as exposure time to a given broad-band pressure-level times per day during a normal working day.

Intermittent variable noise is defined as broad-band noise which is intermittent in time duration and variable in both duration of "on" and "off" time and absolute magnitude. Two basic methods are currently available. The equal-energy theory (3) reasons that hearing-damage risk is determined by the total amount of energy for each day (8 hr). For half-day exposure (4 hr), 3 dB greater noise levels are permissible for the same risk. Each halving of energy permits adding 3 dB to the noise levels permissible. The equal temporary effect theory (the temporary threshold shift - TTS) (3) is based on the observation that those noise exposures which ultimately produce permanent hearing loss also produce temporary hearing loss in young ears. Sataloff, Vassallo, and Mendulse (3) found that underground iron ore miners exposed intermittently to intense rock drill noise showed no greater hearing damage to noise exposure than do mill workers exposed to steady noise 20 dB lower. Other reports of hearing damage to miners agree with Sataloff et al. (3, 4). Intermittent variable noise is the most common noise in a mining and metallurgical environment.

1.3 Regulations and Code

The noise exposure may be specified as being the constant sound level for its duration. If the sound level varies with time, the mean-level must be obtained by calculation. The permissible noise levels refer to sound pressure levels that represent conditions under which it is believed that nearly all workers may be repeatedly exposed without adverse effect on their ability to hear and understand normal speech (Table 1).

The sound level shall be determined by a sound level meter, meeting the standards of the United States of America Standards Institute and operating on the A-weighting Network with slow meter response. The A-weighting scale is used to measure hazardous noise because it discriminates against the low frequencies and more closely simulates the response of the human ear than other weighted scales.

The new proposed standard still limits an employee's exposure to 90 dBA, as an eight hour time-weighted average (Federal Register,

TABLE 1

OSHA[+] Noise Standard - Permissible Noise Exposure

Duration per Day Hours	Sound Level dBA*
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115**

* Sound Level Meter on the slow-response setting.
**Ceiling value.

Vol. 39, No. 207, October 24, 1974). However, it requires identification of all sources generating noise levels in excess of 85 dBA and audiometric testing of all employees exposed to 85 dBA and greater for 8 hours a day.

OSHA will continue to limit exposure to impulse noise to 140 dB peak sound pressure level. The proposed standard will make use of a exponential scale for noise levels and frequency of impulses. The number of impulses allowed at 140 dB would be 100 per day. For 130 dB, the number of allowable impulses would be 1000 per day. For each 10 dB decrease in impulse noise level, the number of impulses to which employees are exposed may be increased by a factor of 10.

The OSHA Standard has established the following priorities for compliance:

1. Feasible engineering controls such as reducing the noise at the source, along the path, or in the employee's hearing zone.

[+] Occupational Safety and Health Administration (U.S.A.).

2. Feasible administrative measures by limiting the exposure of the employee to noise through job rotation and production scheduling.
3. Hearing protectors used as a temporary means of limiting noise exposure until engineering controls and administrative measures are implemented.

Where the engineering and administrative controls which have been implemented do not reduce the sound levels to within the permissible limits, the employer shall continue to develop and implement engineering and administrative controls as they become feasible (OSHA).

It was agreed to use OSHA criteria since New Brunswick regulations were being revised at the time the survey was conducted.

2. FIELD MEASUREMENTS: EQUIPMENT AND TECHNIQUE

The measurement of noise levels should be associated with a noise control problem in a mine or mill. The conditions demanding this data should be established before the measurement project starts. From this information, suitable field and laboratory equipment can be selected. Measurements such as these can be made at little cost and effort, simply by introducing noise exposure as a factor in mining and mill production planning.

2.1 Instruments

Instruments are required to determine the noise levels to which underground employees are exposed, to evaluate noise survey techniques and equipment, and to compare noise exposure using a sound level meter and noise exposure dosimeter.

2.1.1 Sound Level Meter

The basic system for measuring sound pressure levels or vibration acceleration levels with a sound level meter consists of the following:

1. Transducer (electret-condenser, $\frac{1}{2}$-in, 1933-9701, Gen Rad.) and 1562-A Sound-Level Calibrator, Gen. Rad..

2. 1933 Precision Sound Level Meter, Gen. Rad. (IEC R 123 and NASI SI SI. 4-1971):

Impulse Precision Sound Level Meter which has a frequency range 5 Hz to 100 k Hz; A, B, and C, linear frequency response, octave filter, and impulse measurement with max. RMS hold, etc. (IEC R 179).

2. 1. 2 Noise Exposure Monitor or Dosimeter

A sound level survey alone is not enough because most industrial noise levels vary. Critical areas should be continuously monitored during the work day to determine if the duration of high noise levels is longer than that permitted by the OSHA Noise Standard. A special instrument, the noise dosimeter, has been developed. In this case the noise dose may be defined as the constant sound level for the time duration (Equivalent continuous sound level - L eq). This instrument can be divided into two categories:

a) In type A the voltage is converted to a current and used to plate the electrodes of an electro-chemical memory cell. The amount of plating of the cell is then read out as a percentage of exposure (The duPont E-100 Audio Dosimeter).

b) In type B the signal from the integration circuit is converted to pulses that are stored and later read out as a percentage of exposure (Noise Dose Meter, Type 4425, Band K; GR1944 Noise Exposure Monitor; and Sound Dosimeter, 60-520, Edmont).

The manufacturers of both types of instruments claim compliance with ANSI S1. 4-1971 for type 2 sound level meters. These instruments are available either in stationary format or in portable versions so they can be carried in thepocket of a worker preferably with the microphone mounted close to his ear.

2.1.3 Statistical Analysis

The 166 Band K Noise Classifier classified noise levels into amplitude bands. The instrument has application where irregular noise patterns require analysis. It also couples with ANSI S1.4-1971 for type 2 sound level meters.

2.2 Technique for Analysis of Results

The sound level meter and impulse precision sound level meter were used to observe the sound levels. Both instruments were operated on the A-weighted network with slow response and calibrated with the calibrator before and after the shift. Construction of the universal attachment permitted technical development for measuring noise level criteria. Sound level measurements were usually taken within one meter of the miner's ear. The total duration of exposure time in hours was determined by full -shift time studies and partial-shift time studies. The impulse precision sound level meter was connected with a portable level recorder. The level recorder gave a graphical display of the sound level as a function of time. For frequency analysis an external filter was connected on the impulse precision sound level meter. Records of such surveys show the instruments used, data and location of the test, machinery or equipment generating the noise, and the names of the operators.

The Noise Exposure Dosimeter was fastened on the miner with the microphone as close to the ear as possible.

3. NOISE MEASUREMENTS

The purpose of these measurements is to evaluate the many unique factors involved in determining required or desirable noise levels in a concentrator.

3.1 Assessment of Noise-Exposure

In addition to speech interference level, a number of rating systems have been developed to assess the annoyance and loudness of noise.

Two recognized rating systems may be used to predict industrial and community response to noise. One method uses dBA values, and the other utilizes octave band sound pressure levels.

In recent years (1969) various countries have proposed noise rating methods for hearing conservation purposes. Two noise rating proposals exist at present:

1. "Assessment of Noise-Exposure During Work for Hearing Conservation Purposes"; and
2. "Noise Assessment with Respect to Community Response".

The first proposal is based on hearing damage risk, while the other is more related to the annoying effects of the noise.

Noise control criteria based on hearing damage risk proposed a rating scheme for noise exposure during work. The rating scheme is based on the concept of an equivalent continuous sound level per week in terms of dBA. The normal working week is taken as the time base, and the ultimate permissible equivalent noise level is set to 85 dBA (OSHA).

Noise control criteria related to annoyance is based on the concept of an equivalent continuous sound level. A number of other factors influence the annoying effect of noise. Annoyance is very strongly dependent on energy content in each frequency band. Noise control techniques are equally dependent on the energy level in each frequency band. Identification of pure tone frequencies is a useful diagnostic tool for finding and quieting the source. The simplest method to determine proposed noise criteria is to use noise rating curves (N) as shown in Appendix 1-9. Each N rating curve is equal to the sound pressure level in dB at the point on the curve corresponding to a frequency of 1000Hz. They are used in the way that the level values for each frequency band are noted in the graph. It can be seen which N rating curve intersects the highest sound level over all frequencies and the noise is then assigned that particular N-rating number, for example, N100 (Appendix No. 1). From the shape of the curves it can be seen that much more weight is put on the higher frequencies (ISO* R 1996). Curves are used to give the maximum allowable time that the worker may be exposed to the noise, as well as being used to set allowable limits for machinery, taking the frequency response of the human ear into account. Exposure to a constant level of noise for 8 hours a day involves a risk of deafness if the N-rating is equal to or greater than 85.

A relationship between the noise control criteria in dBA and the corresponding N-rating values is the international proposal whereby the numerical value of the dBA criteria should be taken as 5 higher than the corresponding criterion in N-rating (5).

Before the measured noise level in dBA is compared to the N-rating criteria it may be necessary to use certain corrections to the measured value due to the characteristic features of the noise in question (6) (Table 2).

Table 2

Appropriate Corrections to Conditions of the Noise (6)

Condition	Correction dBA
Pure-tone Components	+1
Wide Band Noise	0
Impulsive	+1
Nonimpulsive	0
Continuous Exposures to 1/min	0
10 to 60 Exposures/hr	−1
1 to 10 Exposures/hr	−2
4 to 20 Exposures/day	−3
1 to 4 Exposures/day	−4
1 Exposure/day	−5
Very Quiet Suburban	+1
Suburban	0
Residential Urban	−1
Urban near Some Industry	−2
Area of Heavy Industry	−3
Nighttime	0
Daytime Only	−1
No Previous Conditioning	0
Considerable Previous Conditioning	−1
Extreme Conditioning	−2

---

* ISO, International Organization for Standardization (R = Recommendation)

The sum of the various corrections is then applied to the original level value to obtain the corrected level value.

The numerical values of the N-rating criteria in Appendix 1 to 9 have a lower level than the corresponding criterion in dBA:

Differences	Mean dBA	Range	Number of Measurements
$dBA^{*}_{(E)}$ - N	3.85 ± 0.26	7.4 - 2.2	26^{+}
$dBA^{*}_{(M)}$ - N	3.96 ± 0.34	7.5 - 0.5	26^{+}

* Estimated (E); Measured (M)

+ Delete one measurement (App. 8, No. 1: $dBA_{(E)} < N$)
and $dBA_{(M)} < N$)

In our case, the numerical values of the dBA criteria are approximately 4 dBA higher than the corresponding criterion in N-rating. Every location at which measurement was taken has different environment conditions and therefore different correction, thus the range of differences is high.

3.2 Accuracy of Measurements

The simplest measurement is recommended as long as adequate information is obtained to solve the problem. The simplest approach is the direct reading of a sound level meter of the A, and C scale weighting networks. Some sources have some well defined frequency content in octave bands. Octave band sound pressure levels may be converted to the equivalent A - weighted sound level corresponding to the point of highest penetration into the sound level contours (Figure 2). In Appendices, total noise estimated from the octave-band noise levels given in the nine columns from 31.5 H_2 to 8000 H_2. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

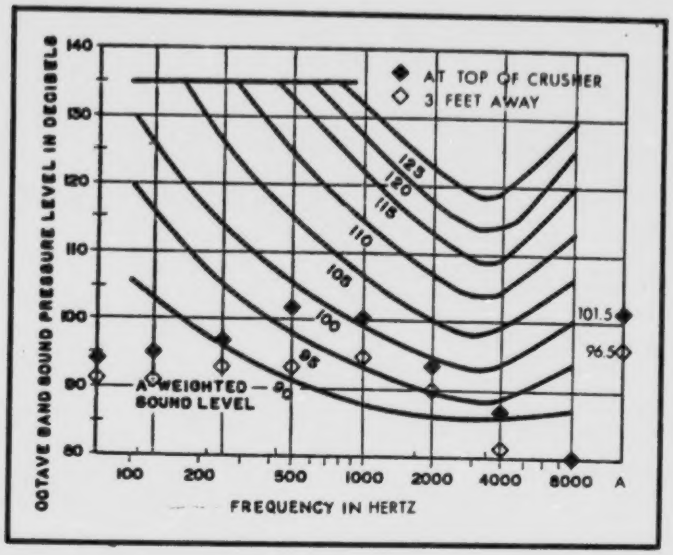

FIGURE 2: Standard Crusher: the Equivalent A-Weighted Sound Level Contours.

Measured results in dBA and estimated results in dBA should differ about ± 1 dBA. Also, the graphically calculated result should be close to measured values. In practice this is not always obtained:

Standard crusher	dBA		
	Measured	Estimated	Graphical
At top of crusher	107	103.2	101.5
3 feet away	99	97.7	96.5

The obvious logical question is which result is the best. Estimated and Graphical methods show close agreement, because they are calculated from the octave band spectra. The measured results differ. Results of differences between measured and estimated levels in dBA, dBC, and dBLin are calculated using data from 1 to Appendix 9 (Figure 3). Agreements between measured and estimated levels in dBA are 37% and in dBC they are 76%. The highest frequency influences the results in dBA levels, because the tolerance limit

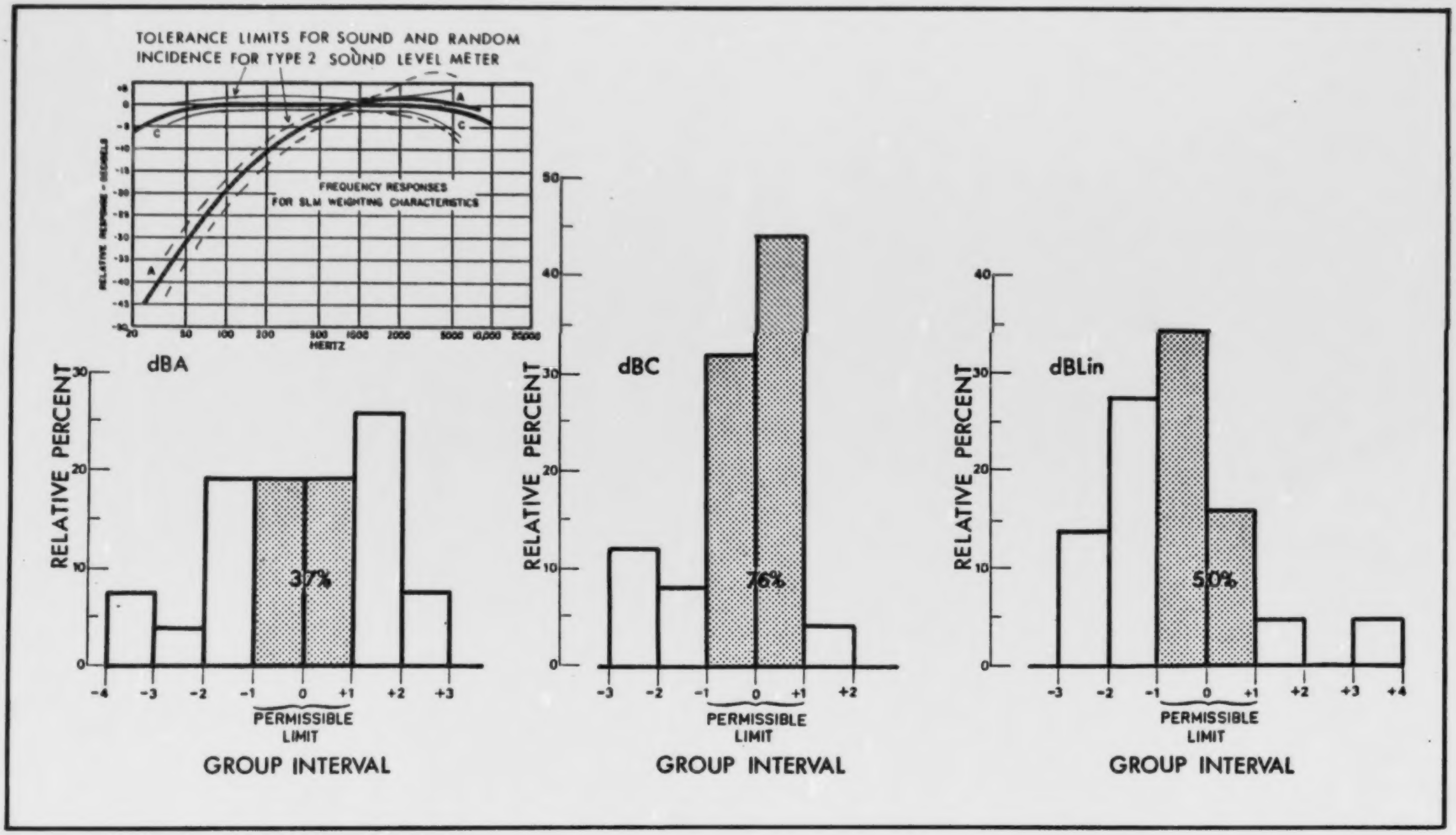

FIGURE 3: Frequency Comparison of Differences Between Measured and Estimated Levels in dBA, dBC and dBLin.

is greater for sound and random incidence for the type 2 sound level meter, ANSI S1.4-1971, (Figure 3).

From the above it is evident that the most accurate measurements are the direct long measurements in dBA, and dBC and dBLin levels, because it can be concluded how much and how the noise varies. A good result over all frequencies demands a long period of time and possible repeating of measurements.

3.3 Noise Exposure

The hearing damage potential of a given noise depends not only on its level, but also its duration. The level must be sampled repeatedly over a well defined sampling period. Based on the levels samples, it is possible to calculate an equivalent continuous level (Leq) in dBA which has the same hearing damage potential as the varying level. If the level varies gradually, Leq can be calculated based on measurements with a sound level meter and a stopwatch. However, if the level varies randomly, manual calculations cannot easily be used to calculate Leq, but Noise Dose Meters are available to perform the calculations automatically. In the concentrator, five measurements were done with the Noise Dose Meters and one measurement with the noise classifier during a full shift (Table 3).

The results of the measurements showed that operators No. 1 and 4 should wear hearing protection, although both exposures should be rechecked. Leq during the full shift in #12 Grinding Circuit of the operator is 91 dBA. In the other cases it was not calculated because the Noise Exposure Index values are low. The results require careful interpretation and cannot be used as the sole source of information. A single day's operation on one man is not conclusive evidence of conditions.

The evaluation of the data from the Noise Classifer (No. 6) is shown in Appendix 10.

In order to illustrate how long a worker can be permitted to stand at different machines, Table 4 is completed. The results of the noise exposure limits for a normal 8-hour working day show that the worker must wear hearing protectors.

Table 3

Noise Exposure During Full Shift in Concentrator

No.	Location	Exposure Index	Sound Level Exceeding	Instrument	Note
1	#12 Grinding Circuit Operator	1.12	>115	The Du Pont E-100 Audio Dosimeter	Time from 8:10 A.M. to 4:00 P.M.
2	#12 Lead Flotation Operator	0.10	-	Noise Dose Meter Type 4425, B & K	Time from 8:10 A.M. to 4:00 P.M.
3	#6 Concentrator Shift Boss	0.35	-	Noise Dose Meter Type 4425, B & K	Time from 8:10 A.M. to 4:00 P.M.
4	#6 Dryer Operator	0.65	>115	GR 1944 Noise Exposure Monitor GenRad	Time from 8:10 A.M. to 4:00 P.M. Monitor battery expels during shift
5	Crusher Foreman	0.194	-	Sound Dosimeter 60-520 Edmont	Time from 8:10 A.M. to 4:00 P.M.
6	#Crusher Control Room	0.018	-	B & K 166 Environmental Noise Classifier	Time from 8:13 A.M. to 4:00 P.M. See Appendix 10

Table 4. Permitted Duration of Noises Under Various Conditions in Mill

No.		dBA		Exposure Limits for 8-hour			Note
		Measur. (1)	Est'd(2)	(1)	(2)	with ear muffs	
1	Standard Crusher	107	103	0.75	1.32	No Limit	At top of crusher
		99	97.7	2.3	2.8	No Limit	3 feet away
2	Short Head Crusher "B"	98	96.7	2.6	3.2	No Limit	At top of crusher
		97	95.6	3.0	3.7	No Limit	3 feet away
3	Rod Mill #1 GR 001	97	96.9	3.0	3.1	No Limit	At discharge chute
		95	96.4	4.0	3.3	No Limit	3 feet from side
		92	93.9	6.1	4.7	No Limit	At discharge chute, ear level
		86	87.1	No Limit	No Limit	-	At discharge chute, unit off
4	Ball Mill #1 GB 001	88	89.2	No Limit	No Limit	-	3 feet from side
		91	90.6	6.97	7.38	No Limit	3 feet from gearbox and drive bearing
		86.5	86	No Limit	No Limit	No Limit	3 feet from discharge chute, ear level
		73.5	73.9	No Limit	No Limit	No Limit	At operator's desk
5	Rod Mill #2 GB 002	93	94.5	5.3	4.3	No Limit	3 feet from side
		101	100.5	1.73	1.87	No Limit	At discharg chute
		97	98.2	3.0	2.6	No Limit	At discharge chute, ear level

Table 4. (Cont'd)

No.		dBA		Exposure Limits for 8-Hour			Note
		Measur. (1)	Est'd(2)	(1)	(2)	with ear muffs	
6	Rod Mill #6	94	96.6	4.6	3.2	No Limit	3 feet from side
		92	92.5	6.1	5.68	No Limit	3 feet from side
		108	106.9	0.67	0.76	No Limit	At discharge chute
		104	103.9	1.15	1.17	No Limit	At discharge chute, ear level
		93	95.1	5.3	3.95	No Limit	3 feet from gearbox and drive bearing
		91	92.4	6.97	5.60	No Limit	
7	Zinc Filters	104	101.7	1.15	1.58	No Limit	Measured between two filter tanks
		92	88.6	6.07	No Limit	No Limit	
8	Lead Filters	100	100.4	2.0	1.89	No Limit	Measured between two filter tanks
		91	89.5	6.97	No Limit	No Limit	
9	Flotation Machine	91.5	91.8	6.45	6.25	No Limit	3 feet from motor end
		96	96.3	3.48	3.35	No Limit	2 feet from motor drive axis end

4. CONCLUSIONS

(1) The number and type of noise measurements completed in the concentrator during this survey were insufficient to determine employee personal noise exposures, or to determine the number and nature of all major noise sources.

(2) Single dosimeter readings on the #12 grinding circuit, and #6 dryer operators indicate hearing protection for both may be warranted.

(3) The maximum allowable exposure times for personnel without hearing protection in the crusher, mill, flotation, and dryer areas are 1 hr., 2 hr., 3 hr. and 1.5 hr., respectively.

5. RECOMMENDATIONS

Future organized and extensive work should be as follows:

(1) Noise measurement and evaluation at operators site at crushers, mills, filters, flotation machines, etc., to estimate potential damage to hearing, A-weighted sound level readings may be adequate;

(2) If the data is to be used to redesign a machine to eliminate or minimize excessive sound (noise) levels, octave-band analysis of the noise will be required; and

(3) Noise exposure control by means of personal protection and engineering methods.

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7. ACKNOWLEDGEMENTS

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APPENDIX 1

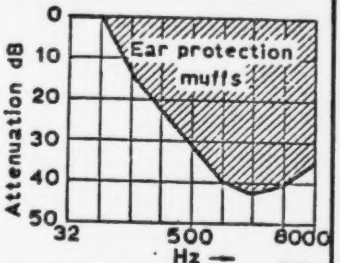
BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	STANDARD CRUSHER	CANMET, E.M.R.
		Page 1 Sign.

ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	103.2	105.7	106.1	100	75	AT TOP OF CRUSHER ◆
2	97.7	100.5	100.9	95	70	3 FEET AWAY ◇
3						
4						

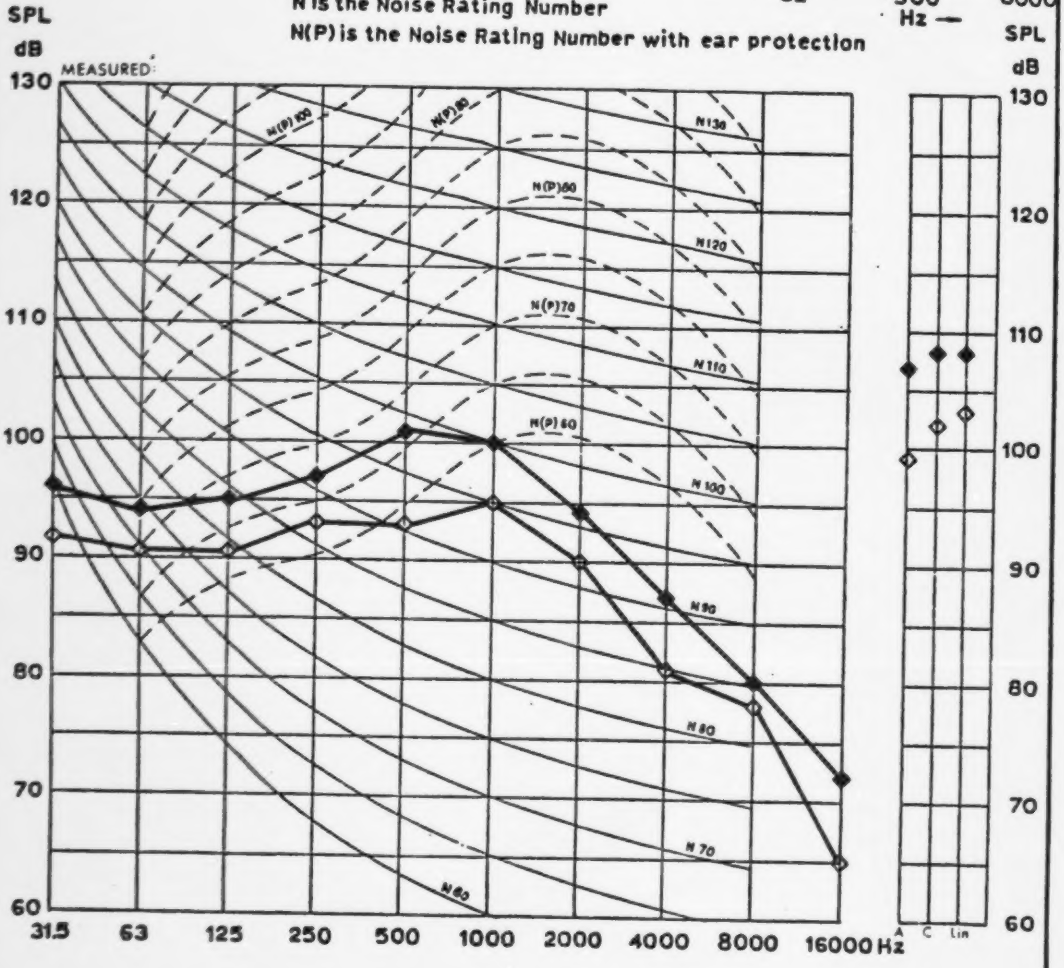
Acoustic environment semi reverberant field

Microphonedistance : As noted



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 2

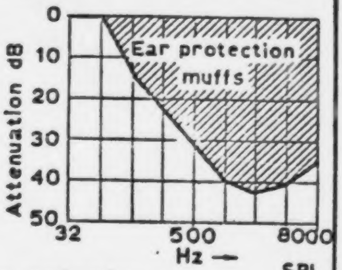
BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	SHORT HEAD CRUSHER "B"	CANMET, E.M.R.
		Page 2 Sign.

ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	96.7	98.9₅	99.4	93.5	67	AT TOP OF CRUSHER ——◆
2	95.6	97.4	97.8	92.5	62.5	3 FEET AWAY ——◇
3						
4						

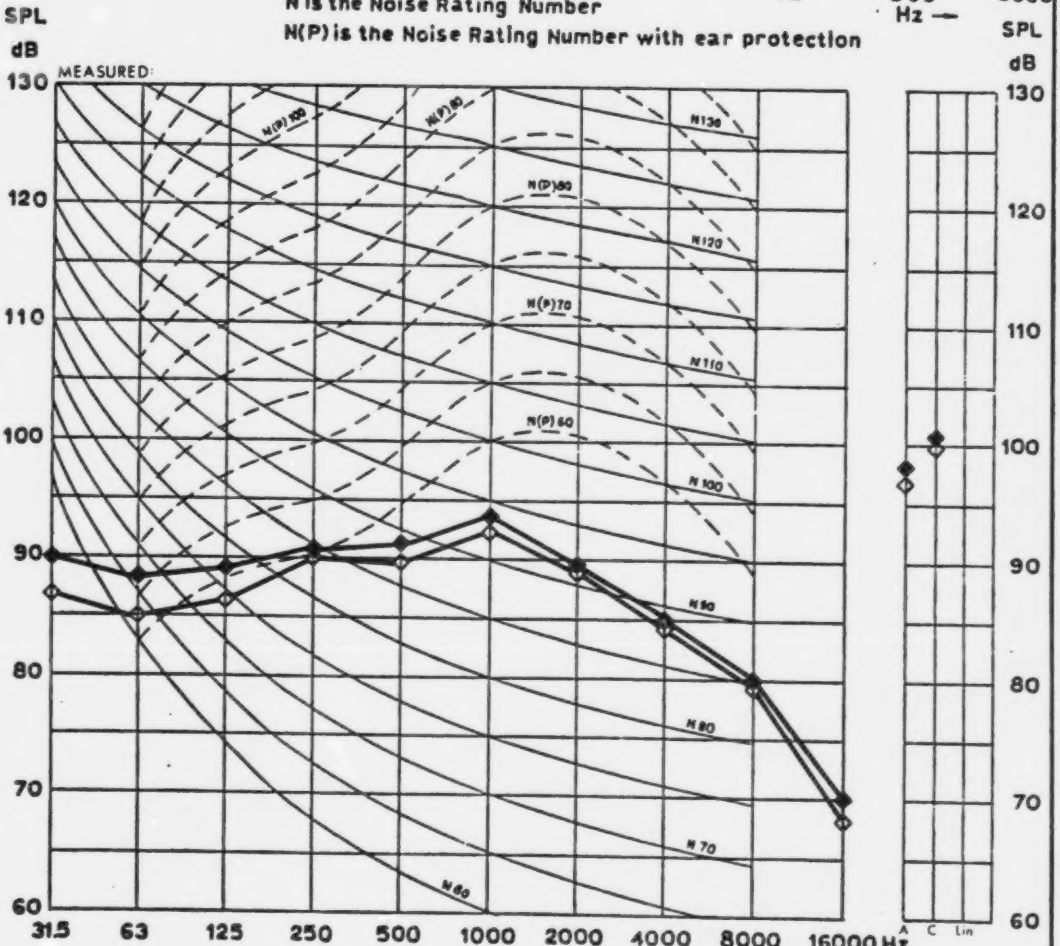
Acoustic environment semi reverberant field

Microphone distance : As noted



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 3

BRUNSWICK MINING CONCENTRATOR No.12 MINE

NOISE MEASUREMENT IN OCTAVE BANDS

ELLIOT LAKE LABORATORY

Date of measurement
08.11.1975

ROD MILL #1 GR 001

CANMET, E.M.R.

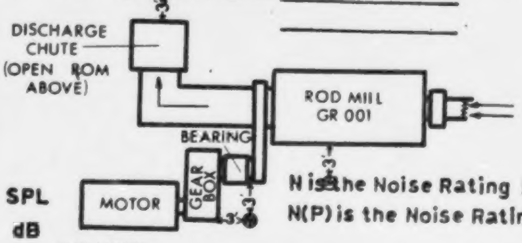
Page 3 Sign. *A.S*

ESTIMATED:

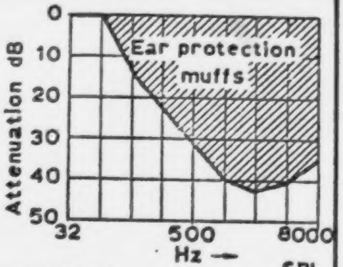
No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	96.9	100.7	101.3	93.5	70	AT DISCHARGE CHUTE ——◆
2	96.4	98.8	99.4	89	69	3 FEET FROM SIDE ——◇
3	93.9	98.7	99	90.5	68	AT DISCHARGE CHUTE, EAR LEVEL ——○
4	87.1	92.7	93.2	82	62.5	AT DISCHARGE CHUTE, UNIT OFF ——▽

Acoustic environment semi reverberant field

Microphone distance ——⊕

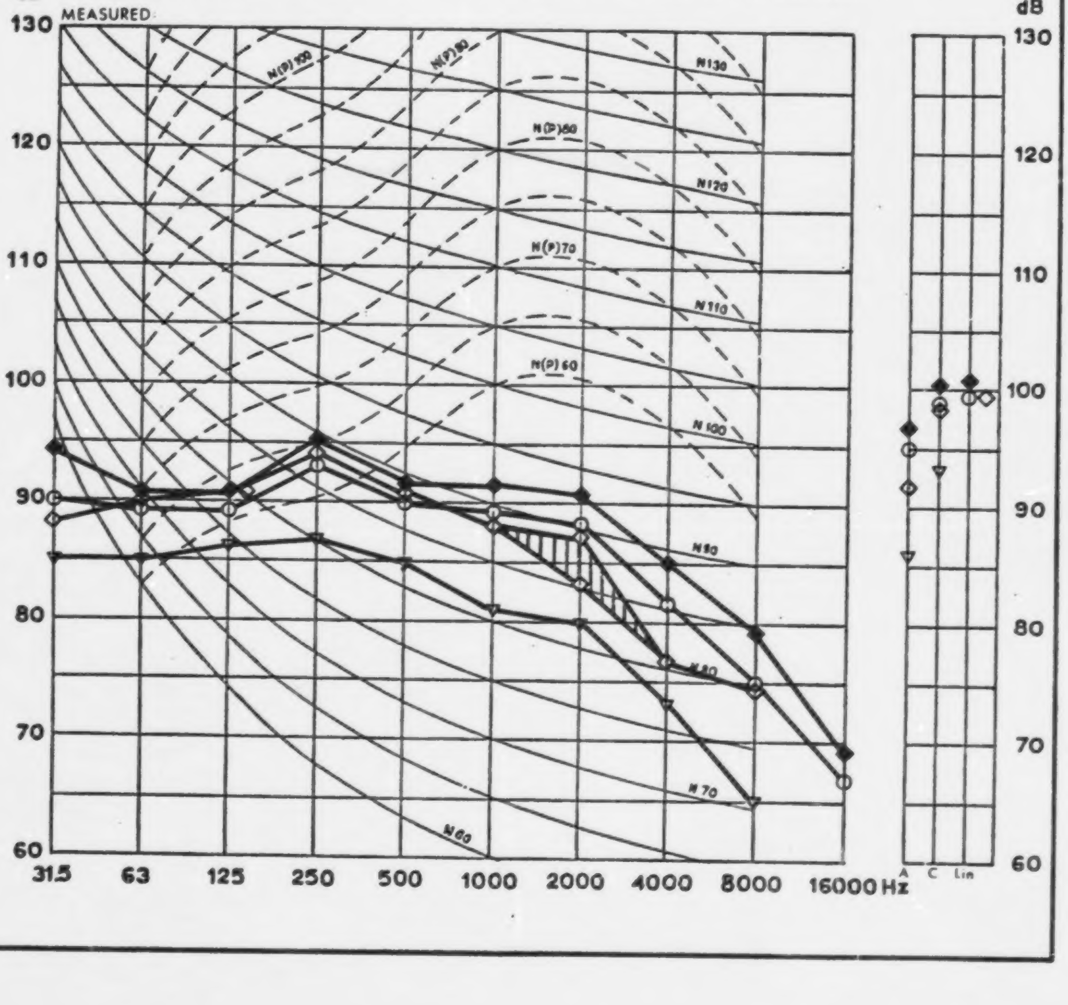


3'
DISCHARGE CHUTE (OPEN ROOM ABOVE)
ROD MILL GR 001
BEARING
GEAR BOX
MOTOR
3'
3'



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 4

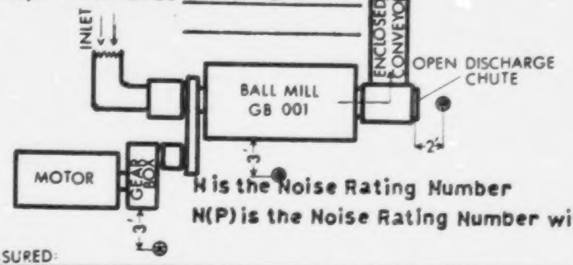
BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	BALL MILL #1 GB 001	CANMET, E.M.R. Page 4 Sign. ds

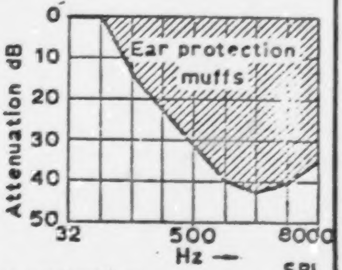
ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	89.2	95.3	95.5	87	66.5	3 FEET FROM SIDE ——◆
2	90.6	95.8	96.1	87	62	3 FEET FROM GEARBOX AND DRIVE BEARING ——●
3	86	93.3	94	82	65	2 FEET FROM DISCHARGE CHUTE, EAR LEVEL ——▼
4	73.9	84.1	85.7	70	—	AT OPERATOR'S DESK ——○

Acoustic environment semi reverberant field

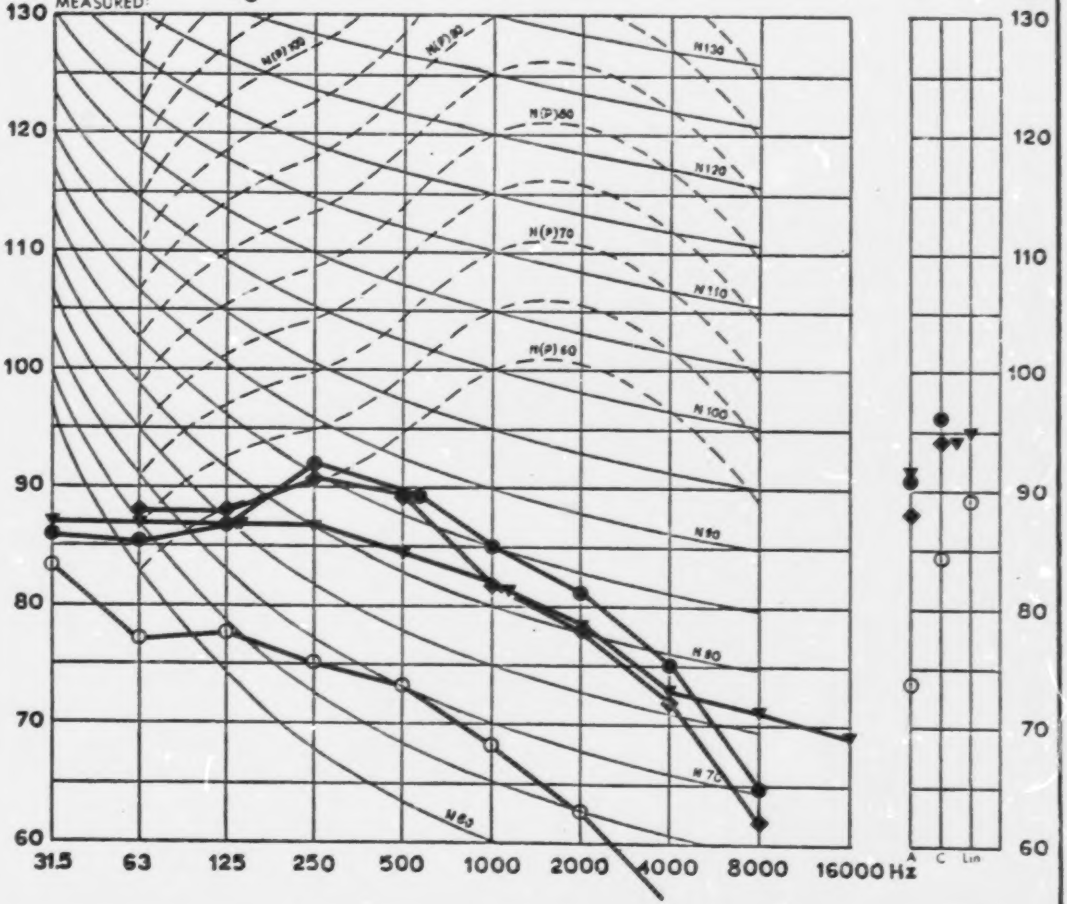
Microphone distance ——●


INLET
ENCLOSED CONVEYOR
BALL MILL
GB 001
OPEN DISCHARGE CHUTE
2'
3'
MOTOR
GEAR BOX
3'



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 5

BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	ROD MILL #2 CR 002	CANMET, E.M.R.
		Page 5 Sign. *AS*

ESTIMATED:

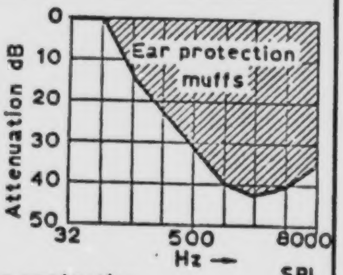
No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	94.5	99.3	99.8	89	71	3 FEET FROM SIDE ──◆
2	100.5	103.1	103.7	97	76	AT DISCHARGE CHUTE ──◇
3	98.2	100.8	101.2	94	69	AT DISCHARGE CHUTE, EAR LEVEL ──○
4						

Acoustic environment semi reverberant field

Microphone distance: As noted

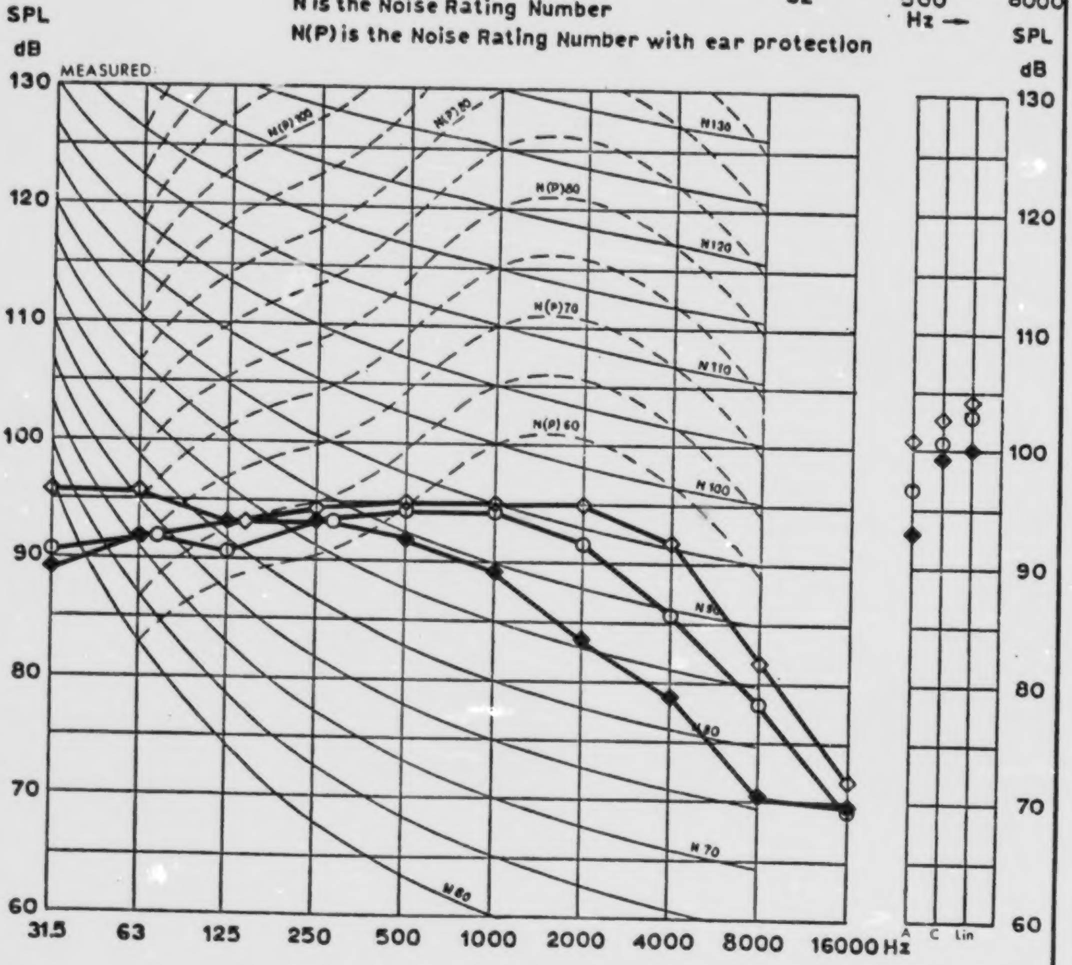
Technical data: Dimension (10'-6" x 14'-0)

Serial No. 340-231-2



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 6

BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	ROD MILL #6	CANMET, E.M.R. Page 6 Sign. dcS

ESTIMATED:

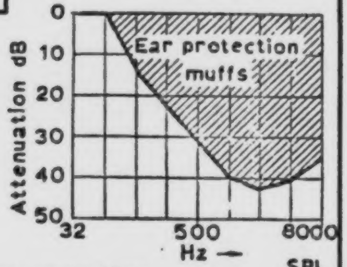
No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	96.6	103.5	103.8	92.5	76	3 FEET FROM SIDE ◆
2	92.5	101.3	101.7	90	75	
3	106.9	108.5	108.4	104	82	AT DISCHARGE CHUTE ◇
4	103.9	106.3	106.7	100	80	AT DISCHARGE CHUTE, EAR LEVEL ○
5	95.1	103.4	103.8	92.5	78	3 FEET FROM GEAR BOX AND DRIVE BEARING ●
6	92.4	100.9	101.4	87	77	

Acoustic environment: semi reverberant field

Microphone distance: As noted

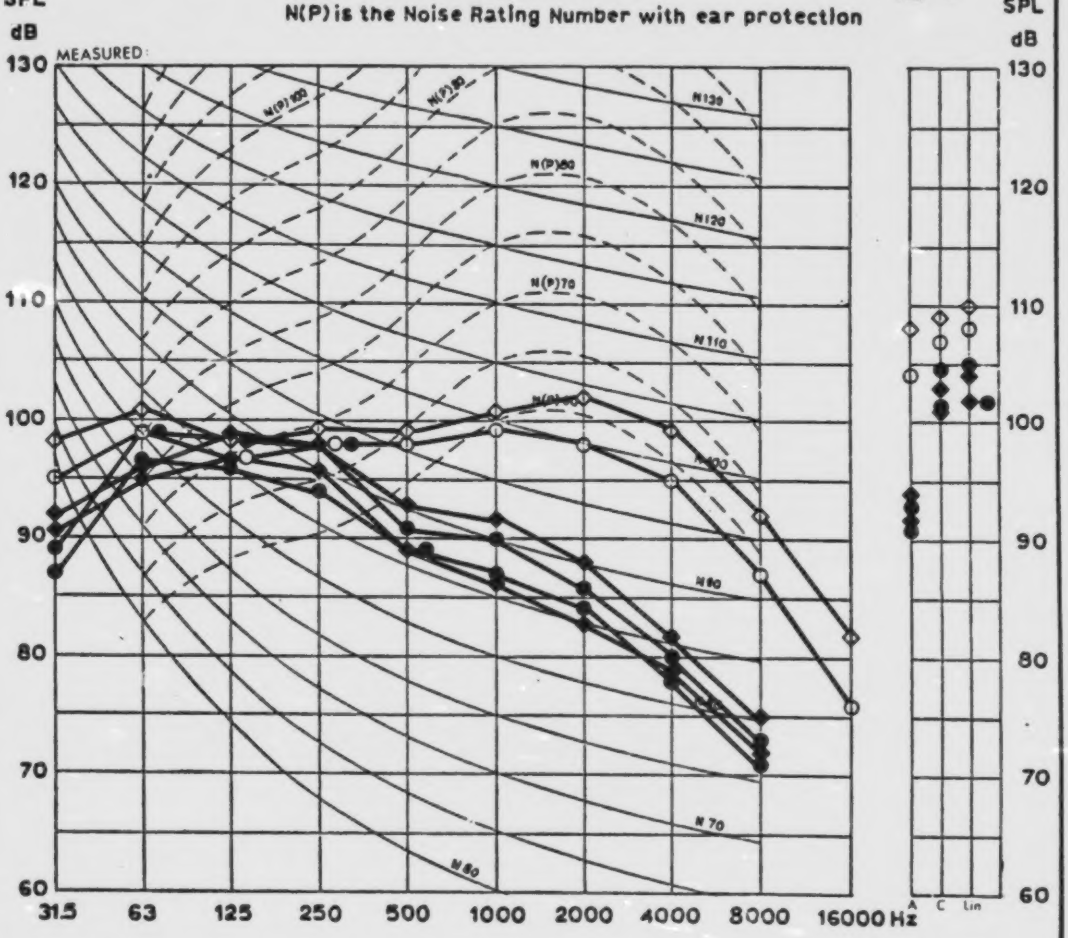
Technical data: Dimension (12'-6" x 16'-0)

Serial No. 340-231-2



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 7

BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	ZINC FILTERS	CANMET, E.M.R.
		Page 7 Sign. GS

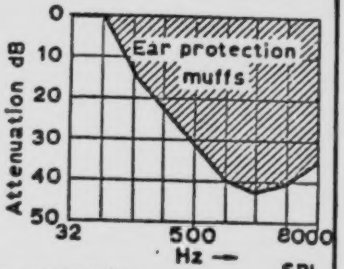
ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	101.7	106.5	107.9	99.5	75	
2	88.6	93.7	94.9	85	64	MEASURED BETWEEN TWO FILTER TANKS
3						
4						

Acoustic environment semi reverberant field

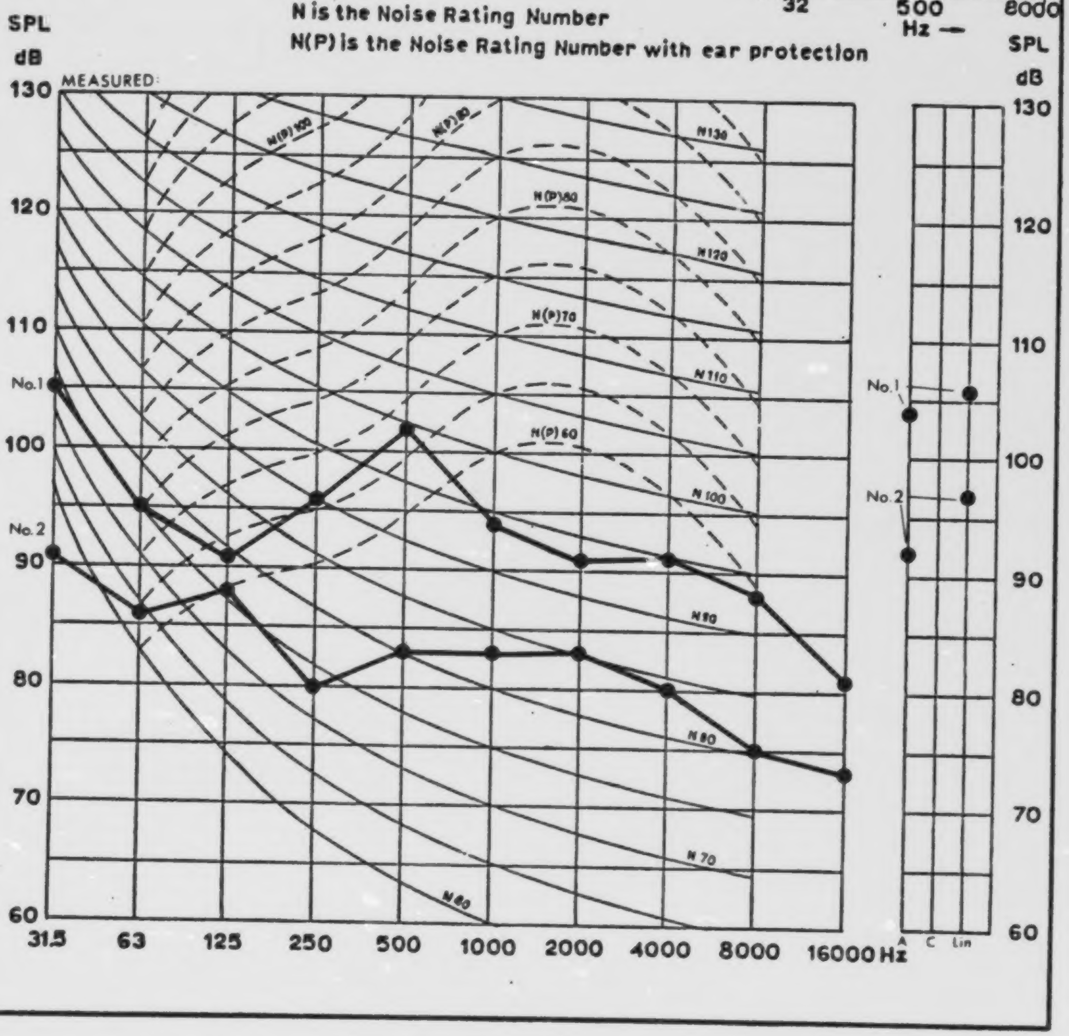
Microphonedistance : As noted

Note: Slow speed compressors cause a broad band impulse of ~12 dB each stroke, every 1.7 seconds. Upper row (No.1) shows peak levels at blowoff.



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 8

BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	LEAD FILTERS	CANMET, E.M.R.
		Page 8 / **Sign.** d S

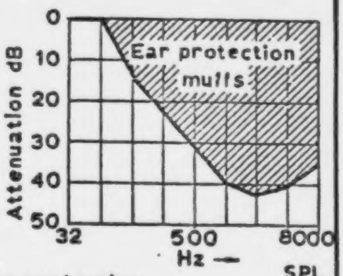
ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	100.4	101.9	102.9	102	70.5	MEASURED BETWEEN TWO FILTER TANKS ——●
2	89.5	93.6	94.4	86	65	
3						
4						

Acoustic environment semi reverberant field

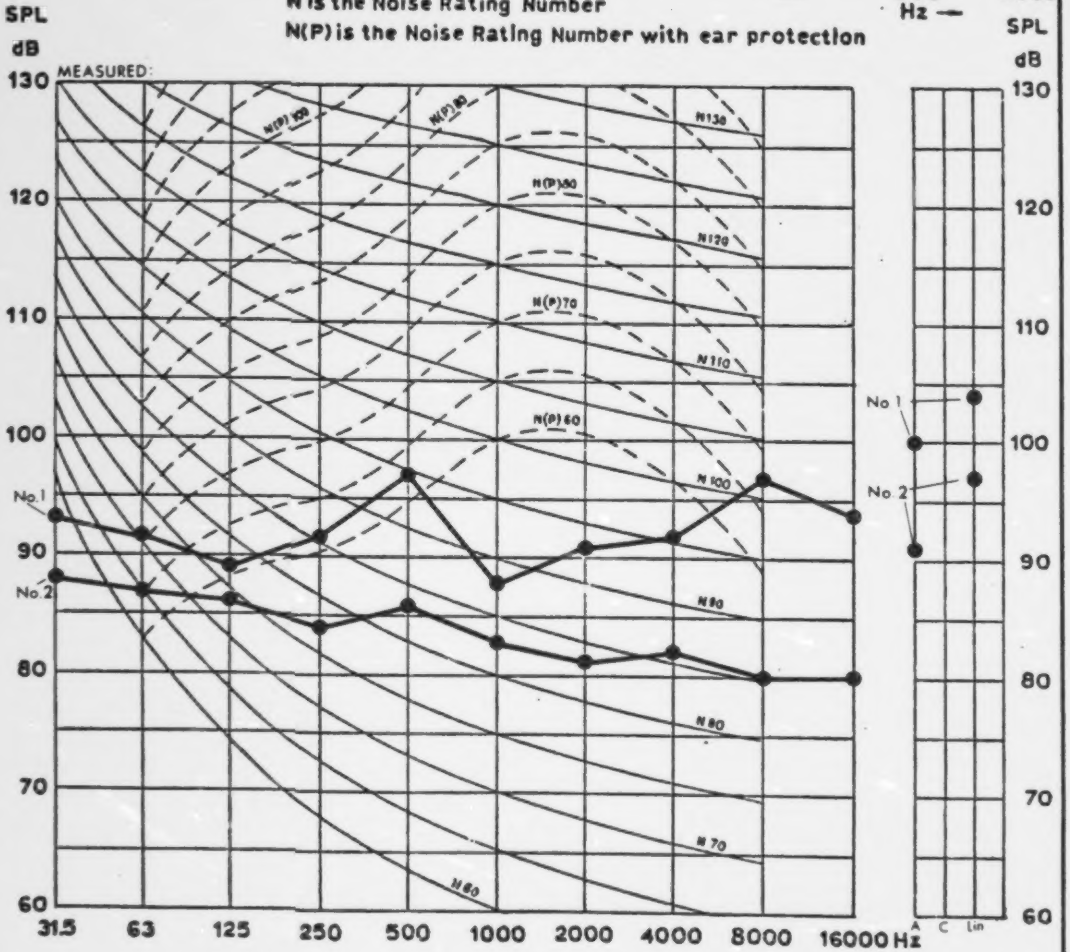
Microphone distance: As noted

Note: Upper row (No.1) shows peak levels at blowoff



N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 9

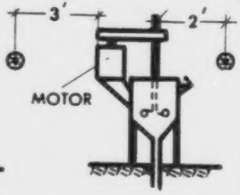
BRUNSWICK MINING CONCENTRATOR No.12 MINE	NOISE MEASUREMENT IN OCTAVE BANDS	ELLIOT LAKE LABORATORY
Date of measurement 08.11.1975	FLOTATION MACHINE	CANMET E.M.R. Page 9 Sign. a.s

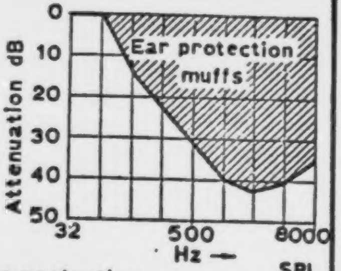
ESTIMATED:

No.	dB(A)	dB(C)	dB(LIN)	N	N(P)	Note
1	91.8	97.2	97.7	88.5	71.5	3 FEET FROM MOTOR END ——◆
2	96.3	102	102.4	92.5	78.5	2 FEET FROM MOTOR DRIV - AXIS END ——◇
3						
4						

Acoustic environment semi reverberant field

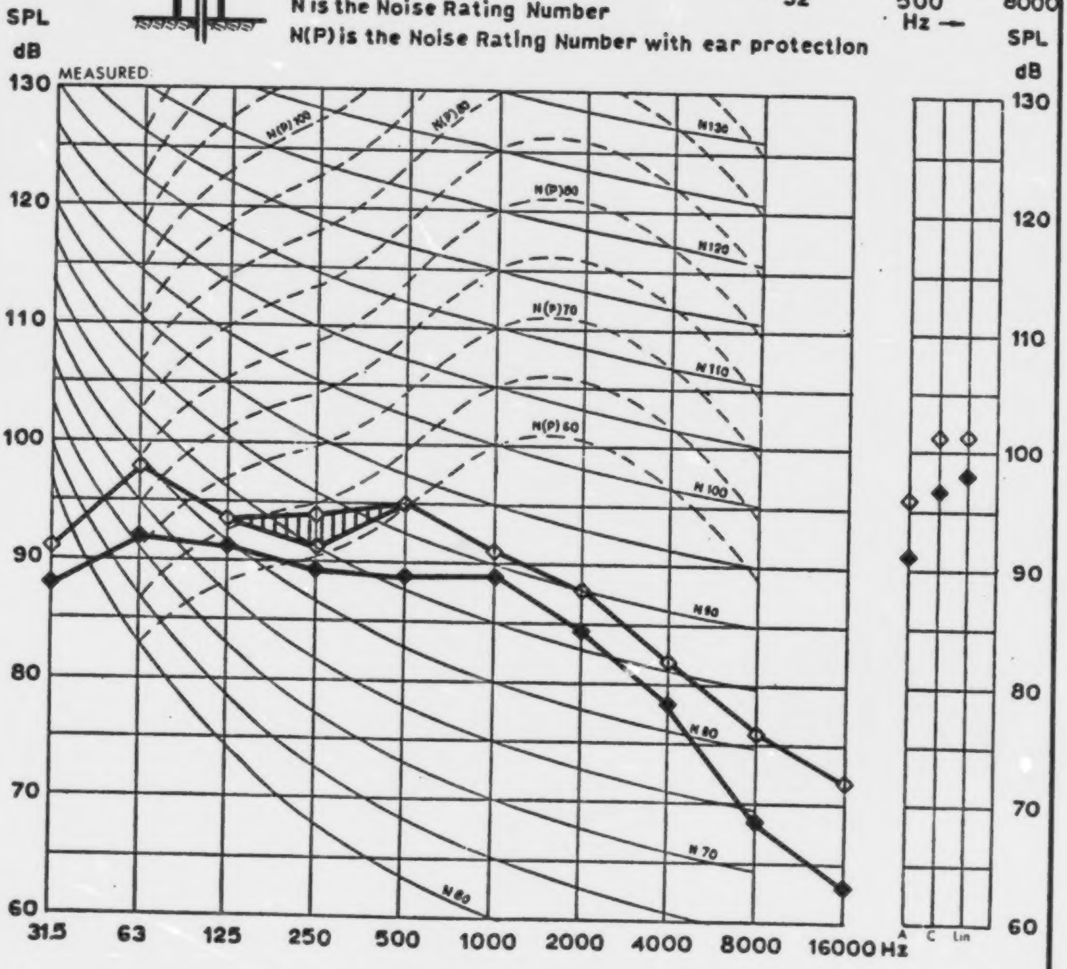
Microphone distance ——⊛





N is the Noise Rating Number

N(P) is the Noise Rating Number with ear protection



APPENDIX 10

ELLIOT LAKE LABORATORY, CANMET, E.M.R.

Noise Survey Form

B & K 166 Environmental Noise Classifier

Test must coincide with full work shift.

Date: Nov. 14/75

Time from 8:13 A.M. to 4:00 P.M.

Location: #6 Crusher Control Room

Made by: Brüel and Kjaer

Instrument No.

Base Line set at 90 dB (normally 90) and Weighting Selector set at dBA.

Total test time 467.2 minutes

EQUIPMENT TESTED (SEE OTHER SIDE FOR DETAILS):

#6 Crusher

SHEET: 1

Exposure in Minutes												
90 to 92 dBA	92 to 95 dBA	95 to 97 dBA	97 to 100 dBA	100 to 102 dBA	102 to 105 dBA	105 to 107 dBA	107 to 110 dBA	110 to 112 dBA	112 to 115 dBA	Over 115 dBA to 120	Over 115 dBA to 125	Exposure Value (%)
480 420 360 300 240 180 120 60	320 280 240 200 160 120 80 40	240 210 180 150 120 90 60 30	160 140 120 100 80 60 40 20	120 110 100 90 80 70 60 50 40 30 20 10	80 70 60 50 40 30 20 10	60 50 40 30 20 10	40 35 30 25 20 15 10 5	30 25 20 15 10 5	20 15 10 5	Not Permissible		130 120 110 100 90 80 70 60 50 40 30 20 10
2.3	3.9											
0.6	1.2											

1. Enter time in minutes from counters on the 166.
2. Enter Exposure Value (%) from right-hand column corresponding to minutes in table.
3. Add Exposure Values 1.8 = % Permissible Exposure
4. Divide % Permissible Exposure by 100 to obtain OSHA Mixed Exposure Index 0.018

Number of personnel exposed: 1

Wearing ear protection? ☐ yes ☑ no

SIGNED: Dmitry Sarich

RECOMMENDATION: ....

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VOL. 4 A Report 3

81-51 M. Savich

Noise measurement in the grinding plant
and coarse ore storage at
Denison Mines Ltd. in Elliot Lake

1981

MESURE DU BRUIT DANS UN ATELIER DE BROYAGE ET UNE AIRE DE STOCKAGE DU MINERAI GROSSIER DE LA DENISON MINES LTD. À ELLIOT LAKE

M.U. Savich*

RÉSUMÉ

Les mesures ont montré que le bruit dans l'atelier de broyage et l'aire de stockage du minerai grossier est de 90 dBA. L'atelier peut être divisé en deux zones de niveau de bruit :

1) niveaux de bruit inférieurs à 90 dBA, et
2) niveaux de bruit supérieurs à 90 dBA.

Les travailleurs ne restent pas dans l'atelier pendant de longues périodes, sauf les opérateurs qui travaillent dans la cabine. Les essais ont montré que le L_{OSHA} varie aux environs de 85 dBA, la nouvelle limite de l'OSHA.

Une exploitation uniforme de l'atelier et un entretien adéquat sont des moyens de réduire le bruit.

---

*Chercheur scientifique, Laboratoire d'Elliot Lake, Laboratoires de recherche minière, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENT IN GRINDING PLANT AND COARSE ORE STORAGE AT DENISON MINES LTD. IN ELLIOT LAKE

by

M.U. Savich*

ABSTRACT

Measurement showed that noise in the grinding plant and coarse ore storage is 90 dBA. The plant can be divided into two parts:

1) Noise levels less than 90 dBA; and
2) Noise levels over 90 dBA.

The workers do not remain in the plant for long, except the operators who work in the cab. Tests have shown that L_{OSHA} fluctuates around 85 dBA which is the new OSHA base limit.

Steady operation of the plant and timely maintenance are solutions for the reduction of noise.

---

* Research Scientist, Elliot Lake Laboratory, Mining Research Laboratories, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario.

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2. Results of L_{OSHA} and time during work day 10

INTRODUCTION

The noise level in the plant and the Noise Exposure Index (NEI) of employees were measured. Measurements of noise were also taken inside and outside the operator's cab near the No. 2 Rod Mill.

NOISE LEVEL IN THE PLANT

The grinding plant is a standard type in uranium mines with very hard ore (Fig. 1). The plant can be divided into two parts according to the level of noise (Table 1):

1) Noise levels less than 90 dBA are found in the first part of the plant around the feeders and conveyors (measurement Nos. 1 to 8); and
2) Noise levels over 90 dBA are found in the remaining part of the plant (measurement Nos. 9 to 68).

The sound pressure level of the rod and ball (pebble) mills was not measured because the impacts caused rapid variation of the noise levels (dB-306 Metrologger). The maximum noise level around rod mills is 96.38 ± 2.0 dBA (mean of 8 measurements), and around ball mills is 94.13 ± 1.5 dBA (mean of 16 measurements). The difference is 2.25 dBA.

From the following Table it can be seen that the noise of rod mills is somewhat higher:

Mills	Measurements	Mean (dBA)		
		L_{max}	L_{eq}	$L_{max}-L_{eq}$
Rod	8	96.38	93.50	2.88
Ball	16	94.13	93.13	1.00
Rod-Ball		2.25	0.37	1.88

The measurements on ball mills have shown that the rubber mill linings reduce the noise level. However, lining the mills reduces flow of the ore and

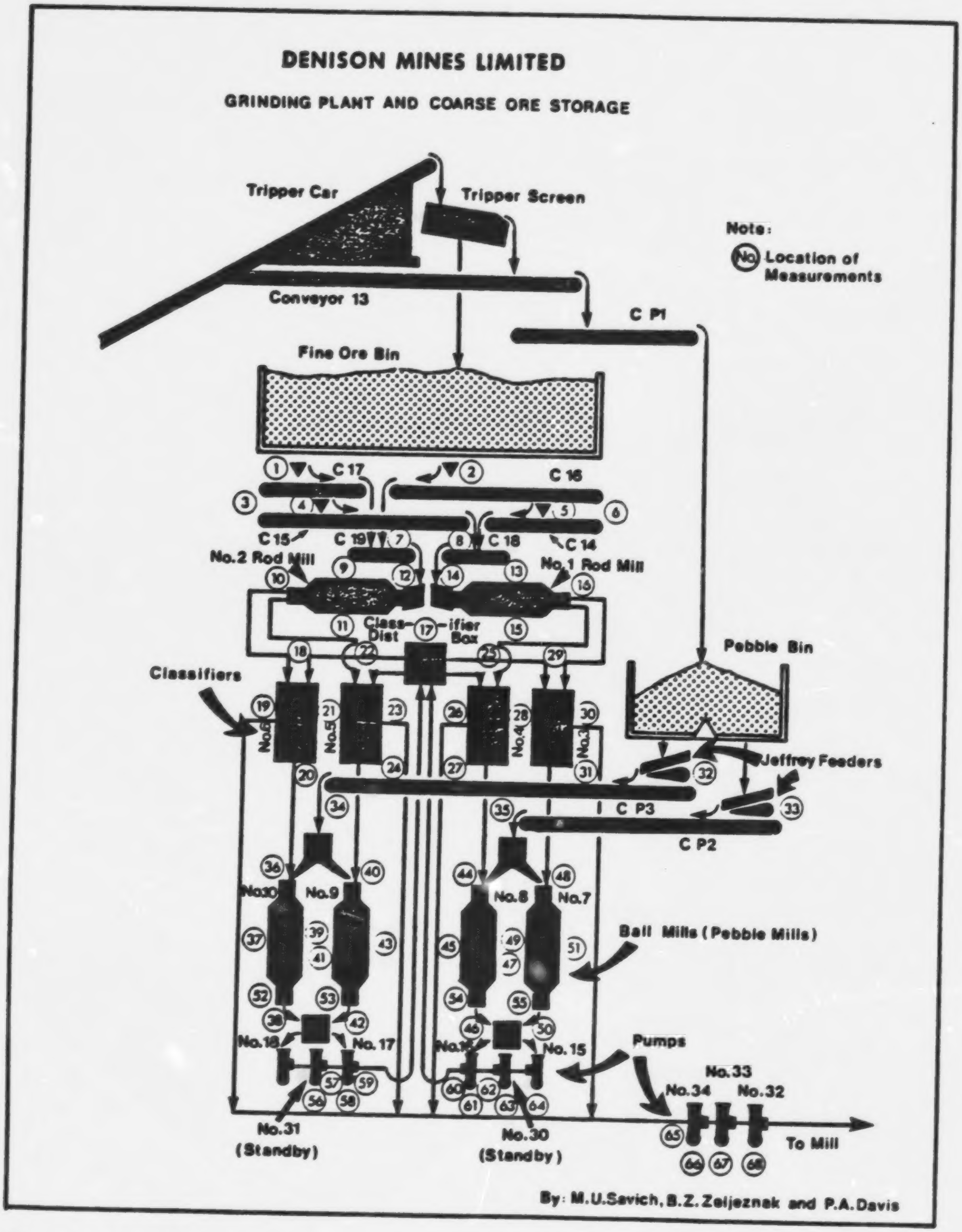

DENISON MINES LIMITED
GRINDING PLANT AND COARSE ORE STORAGE
Tripper Car
Tripper Screen
Note:
No. Location of Measurements
Conveyor 13
C P1
Fine Ore Bin
C 17
C 16
C 15
C 19
C 18
C 14
No.2 Rod Mill
No.1 Rod Mill
Class-Dist
-ifier Box
Pebble Bin
Classifiers
No.6
No.5
No.4
No.3
Jeffrey Feeders
C P3
C P2
No.10
No.9
No.8
No.7
Ball Mills (Pebble Mills)
No.18
No.17
No.16
No.15
Pumps
No.33
No.34
No.32
To Mill
No.31 (Standby)
No.30 (Standby)
By: M.U.Savich, B.Z.Zeljeznak and P.A.Davis

Fig. 1: Location of measurements in grinding plant and coarse ore storage.

Table 1 - Results of noise measurements of the sound pressure level, and peak sound pressure level of different machines.

Measur. No.	Machine No.	Site	dBA		
			SPL	L_{max}	L_{eq}
1	12	Harding feeder	83	86	67
2	10	Harding feeder	82	85	62
3		Fine ore bin chute	78	88	62
4	9	Harding feeder	83	86	65
5	11	Harding feeder	84	85	71
6		Fine ore bin chute	76	77	60
7		Feeder to conveyor	84	86	75
8	1	Feeder to conveyor	85	87	81
9	2	Rod mill		95	92
10	2	Rod mill		97	95
11	2	Rod mill		98	94
12	2	Rod mill		95	93
13	1	Rod mill		93	91
14	1	Rod mill		96	93
15	1	Rod mill		98	95
16	1	Rod mill		99	95
17		Classifier dist. box	91	95	93
18	6	Classifier	89	94	90
19	6	Classifier	90	92	90
20	6	Classifier	91	93	91
21	5&6	Between classifiers	91	93	91
22	5	Classifier	92	97	93
23	5	Classifier	91	94	91
24	5	Classifier	94	96	94
25	4	Classifier	90	94	92
26	4	Classifier	92	97	93
27	4	Classifier	93	94	92
28	4&3	Between classifiers	90	91	90
29	3	Classifier	90	94	90
30	3	Classifier	89	93	89
31	3	Classifier	90	93	91
32	CP3	Bottom Jeffrey	88	94	90
33	CP2	Bottom Jeffrey	83	91	77
34	CP3	Conveyor	89	91	90
35	CP2	Conveyor	90	91	90
36	10	Pebble mill		92	91
37	10	Pebble mill		92	91
38	10	Pebble mill		95	94
39	10	Pebble mill		96	95
40	9	Pebble mill		95	93
41	9	Pebble mill		95	94
42	9	Pebble mill		96	95
43	9	Pebble mill		95	93
44	8	Pebble mill		94	93
45	8	Pebble mill		95	95
46	8	Pebble mill		96	95
47	8	Pebble mill		94	93
48	7	Pebble mill		94	92
49	7	Pebble mill		93	93
50	7	Pebble mill		93	93
51	7	Pebble mill		91	90
52		Speed reducer	97	99	97
53		Speed reducer	97	98	97
54		Speed reducer		101	100
55		Speed reducer	93	97	95
56	31	Pump	94	97	94
57	31&17	Between pumps	94	95	93
58	17	Pump	93	96	94
59	17	Pump	93	96	94
60	16	Pump	95	96	95
61	16	Pump	95	95	95
62	16&30	Between pumps	93	95	93
63	30	Pump	93	94	94
64	15	Pump	92	93	92
65	34	Pump	89	90	90
66	34	Pump	90	91	90
67	33	Pump	92	94	93
68	32	Pump	93	94	93
		Mean	89.79	93.46	89.66
		Std.Dev.	4.71	3.93	8.8

decreases production. Noise from rod and ball mills is different and depends on the type of ore and the number and size of rods and balls.

In rod mills Nos. 1 and 2 measurements (slow response) were done over all frequencies of interest (precision sound level meter, B and K, type 2209) Fig. 2 and 3). There was good agreement between measured and estimated dBA levels (± 1 dBA) with the exception of measurement No. 16 on rod mill No. 1. Measurements No. 10 and No. 16 have a greater noise level because these were located at the rod mill discharge. Noise over all frequencies from both rod mills is nearly identical. The side and portions of the rod mills have a lower level of noise with high frequency of 1000 to 8000 Hz. The mill retains a portion of the noise which is absorbed by the steel. A better and more expensive instrument enabled measurements to be taken that were not previously possible with the cheaper instrument.

The reduction of noise from this machine demands individual treatment. The rod and ball mills were not selected for noise attenuation study. They are not the principal and significant contributor to employee noise exposure, since there are no employees in the immediate vicinity of these mills while they are in operation.

A bar graph of SPL, L_{max} and L_{eq} levels was constructed on the basis of the results in Table 1 (Fig. 4). From the bar graphs it can be concluded that it is possible to construct a good normal distribution curve since results of the measurements are between 90 and 99 dBA. The noise is constant throughout large portions of the plant, because mean sound pressure level is approximately equal to mean equivalent continuous sound level (Table 1 and Fig. 2).

At the greatest focus of noise, around the No. 2 rod mill, a plywood cabin with plain glass was constructed for the operators.

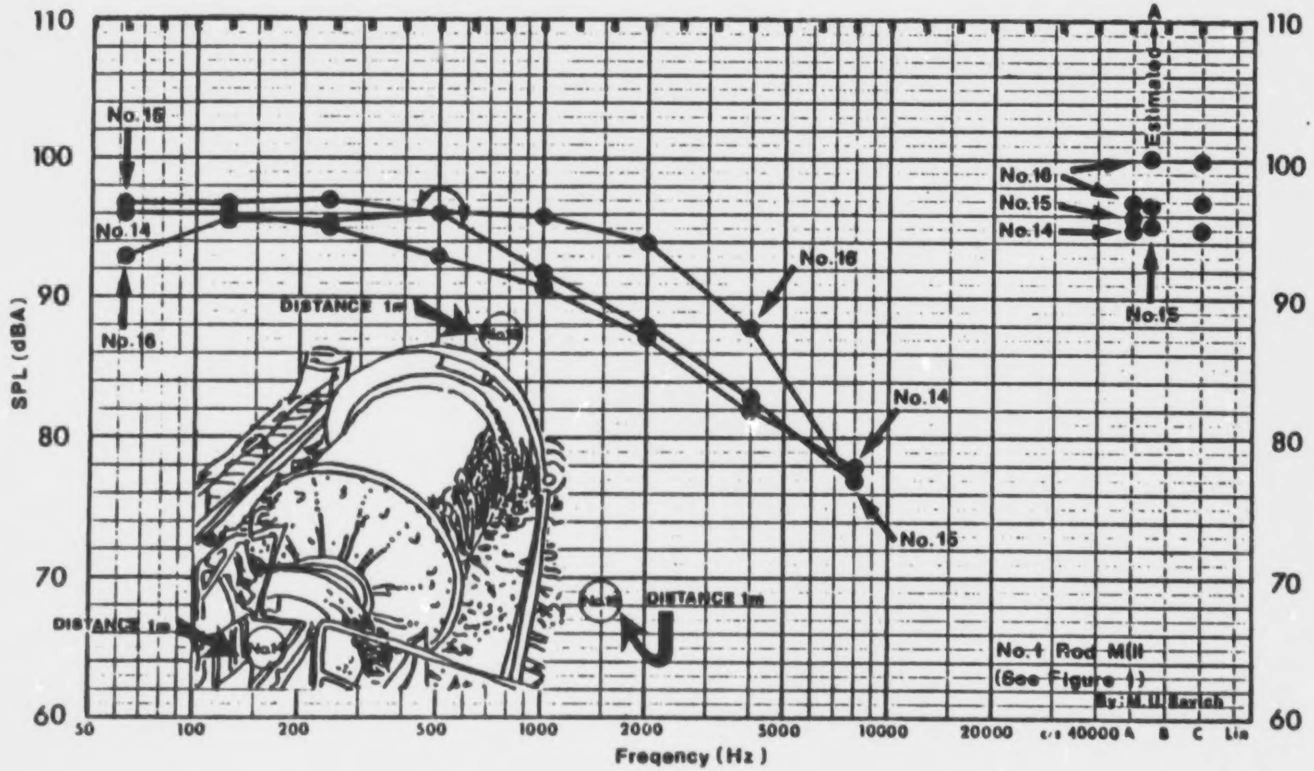


Fig. 2: Frequency noise levels of No. 1 rod mill. NOTE: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

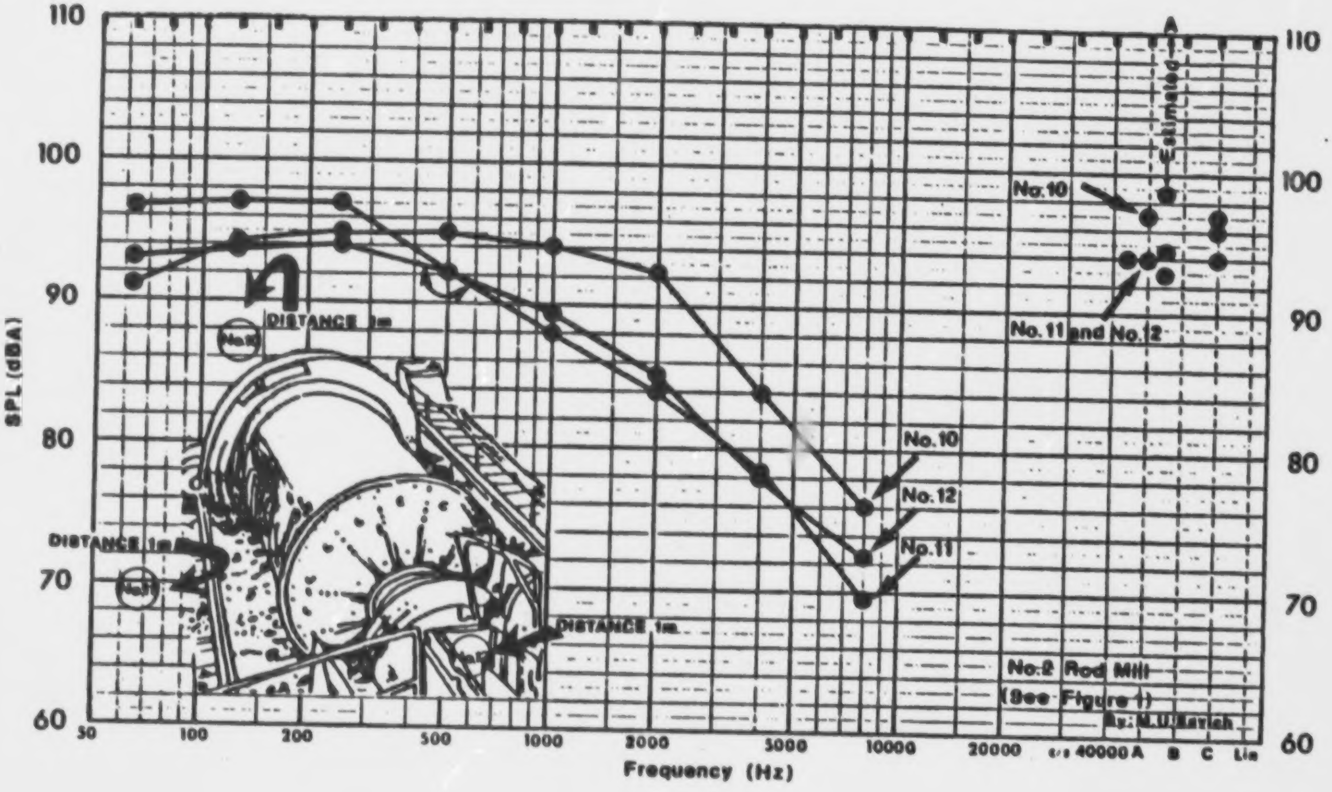


Fig. 3: Frequency noise levels of No. 2 rod mill. NOTE: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

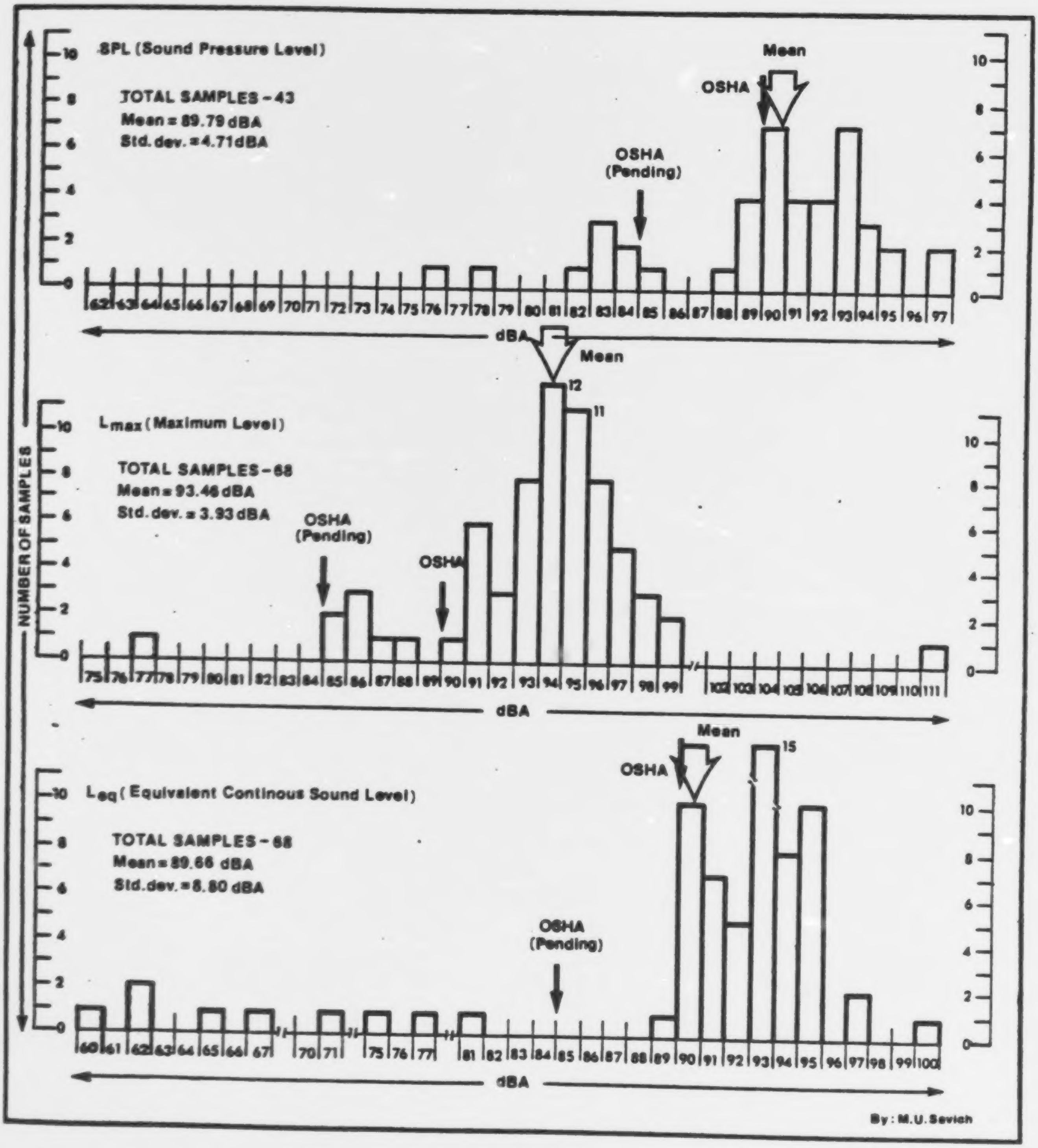


Fig. 4: Density bar graph of the sound pressure level, maximum level and equivalent continuous sound level in grinding plant.

OPERATOR'S CAB

The operator's cab is constructed in the center of the plant between the No. 2 rod mill and classifier distribution box. This location provides the best view and easy access to machinery. The cab does not have acoustical treatment or vibration pads. Furthermore, two windows were broken and in order to conserve heat, cardboard was placed over the holes.

Noise over 90 dBA in the cab is significantly higher during the day shift (8 to 16 h) than it is during the night shift (16 to 8 h)(Fig. 5). The reason is simple: during the day shift control in the plant is greater and the operators often leave the cabs to solve existing problems. Opening the door increases the time of noise penetration into the cab. During the two night shifts in terms of noise, the cab door was opened three times less than during one day shift. Measurements of noise outside the cab confirm this observation. During the day shift the operator is active and takes care to equally load the mills and classifiers - the rod mills stopped for only 7 min. During the night shifts they stop for 40 min due to overloading of classifiers Nos. 5 and 6. The ball mills were still working since they accept products from the rod mills and pebble bin. This measurement has shown the importance of the human factor on production. The problem can successfully be solved by the introduction of computer control on the machines or good acoustic and light signals.

MEASUREMENT OF NOISE EXPOSURE INDEX OF EMPLOYEES IN PLANT

Appendix 1 gives a detailed analysis of noise exposure of employees in the grinding plant and coarse ore storage. The computer gives a report on each worker. The most important data from Appendix 1: time, L_{OSHA} and time distribution by steps of 5 dBA are presented in Table 2. Analysis of these

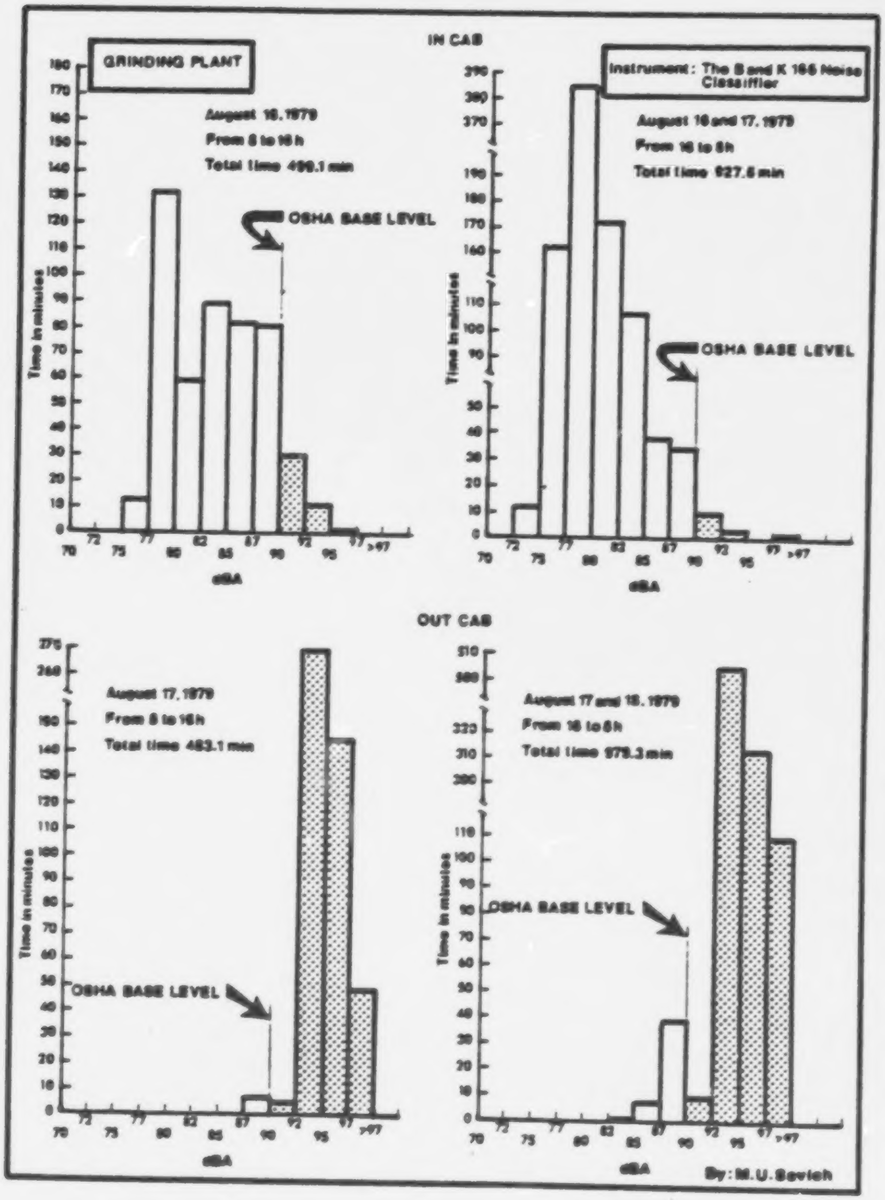


Fig. 5: The noise in cab and out of cab during day and night shifts.

Table 2 - Results of L_{OSHA} and time during work day

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
1	0882	170	Operator	439	87.2	121	43	43	37	37	73	115	6	1	3	1		480
2	0044	172	Operator	418	86.1	209	8	9	12	41	90	92	19	0	0	0	0	480
3	0391	172	Operator	426	88.3	87	75	84	107	79	25	17	6	0	0	0	0	480
4	0391	172	Operator	435	80.1	94	35	38	38	32	69	141	31	2	0	0	0	480
			Mean	429.50	85.43	127.75	40.25	43.50	48.50	47.25	64.25	91.25	15.50	0.75	0.75	0.25	0	480
			Std.Dev.	94	3.66	56.12	27.58	30.88	40.81	21.48	27.71	53.39	12.01	0.96	1.50	0.50	0	480
5	0517	001	Mechanic	396	89.9	184	18	6	7	7	27	172	59	0	0	0	0	480
6	0900	018	Mechanic	389	92.2	145	13	16	6	7	16	159	112	6	0	0	0	480
7	0179	018	Mechanic	402	87	172	10	22	17	19	71	168	1	0	0	0	0	480
8	0168	018	Mechanic	480	65.3	402	41	18	7	9	3	0	0	0	0	0	0	480
9	2893	011	Mechanic	430	83.5	156	25	41	61	74	82	33	7	2	1	0	0	480
10	0517	001	Mechanic	438	83.5	166	20	32	54	72	75	54	7	0	0	0	0	480
11	0900	018	Mechanic	413	84.5	132	27	41	61	90	62	57	10	0	0	0	0	480
12	0179	018	Mechanic	451	79.2	193	38	41	66	65	66	11	0	0	0	0	0	480
13	0508	001	Mechanic*	480	85.7	22	3	3	1	1	449	1	0	0	0	0	0	480
14	2893	011	Mechanic	480	80.6	213	59	51	35	40	27	47	8	0	0	0	0	480
15	0517	001	Mechanic	468	92.5	110	17	6	3	6	37	108	190	3	0	0	0	480
16	0168	018	Mechanic	459	87.1	134	30	21	12	19	54	206	4	0	0	0	0	480
17	0627	031	Mechanic Helper	447	89.9	105	10	16	8	10	65	250	16	0	0	0	0	480
			Mean	441.00	84.68	176.00	25.50	25.92	28.00	34.83	48.75	105.40	34.50	0.92	0.08	0	0	480
			Std.Dev.	32.81	7.13	78.25	14.59	16.90	25.43	31.71	25.77	83.08	59.07	1.88	0.29	0	0	480
18	0938	004	Welder	367	90.1	196	19	16	4	4	17	192	32	0	0	0	0	480
19	0918	004	Welder	428	88.1	127	14	16	25	23	152	97	25	1	0	0	0	480
20	0938	004	Welder	437	90.6	95	10	8	7	5	36	310	9	0	0	0	0	480
21	9748	021	Welder	468	81.5	194	70	52	38	32	33	54	7	0	0	0	0	480
22	0627	031	Welder	454	88.9	125	25	23	19	20	58	186	16	8	0	0	0	480
23	0508	001	Welder	459	82.5	116	78	66	69	33	53	59	6	0	0	0	0	480
24	0918	004	Welder	426	76.3	206	63	68	76	32	23	12	0	0	0	0	0	480
			Mean	434.00	85.43	151.29	39.86	35.57	34.00	21.29	53.16	130.00	13.57	1.29	0	0	0	480
			Std.Dev.	33 37	5.40	45.66	29.20	25.60	28.69	12.49	46.03	104.25	11.41	2.98	0	0	0	480
25	1111	176	Labourer	415	87.4	177	20	16	36	69	30	64	68	0	0	0	0	480
26	2540	X01	Leader	435	80.1	227	72	47	32	24	33	38	7	0	0	0	0	480
27	0540	X01	Leader	451	86.6	155	44	42	46	20	48	77	45	3	0	0	0	480
28	9555	SHB	Shift Boss	398	83.6	309	16	7	7	13	43	74	11	0	0	0	0	480

* Not estimated

data indicate the following:

1) Since the noise is mainly constant throughout a large portion of the plant L_{OSHA} is nearly equal for all job categories: operators (85.43 dBA) $\approx$ mechanics (84.68 dBA) $\approx$ welders (85.43 dBA).
2) The operator's cab is not built for acoustic protection, nevertheless, it provides some protection and contributes to the relatively low L_{OSHA} value (85.43 ± 3.66 dBA).
3) On the average the labour force shortens the work day by 45 min. This accounts for the reduction of L_{OSHA} by about 1 dBA.
4) The exposure of mechanic No. 13 was not estimated in Table 2, since he held the dosimeter at one place (App. 1, Nos 13), and only brought it into the lunch room during lunch hour. The results of the measurements of mechanic No. 8 are questionable, since from 2.30 to 7.30 he was exposed to a lower level of noise than 60 dBA (Appendix 1, No. 8).

Although the noise in the plant is equalized around 90 dBA, L_{OSHA} on the average is 85.5 dBA. This is a classic example of the worker seeking out places with a lower noise level in order to give his ears a rest and increase personal comfort.

CONCLUSION AND RECOMMENDATIONS

The noise measurements in the grinding plant and all the results indicate that underground mining machines are not the only sources of noise in mines. Sources are many and varied. The study of this problem is complex and requires extreme effort and tedious analysis.

The workers do not remain in the plant for long, except the operators who work in the cab. Tests have shown that L_{OSHA} fluctuates around 85 dBA which is the new OSHA base limit.

Acoustical treatment of machines is a difficult task because they would have to be stopped and each one carefully measured individually, taking all factors into consideration: ore, productivity, price and noise.

The example shows that the major responsibility should be left with the factory. This is the long way and demands intervention by government, Union and management.

Steady operation of the plant and timely maintenance are solutions for the reduction of noise. Computer control of processes is necessary in the existing plant.

APPENDIX 1

MEASUREMENT OF NOISE EXPOSURE INDEX IN GRINDING PLANT AND COARSE ORE STORAGE WITH FULL INFORMATION: L_{OSHA} (CURRENT AND CUMULATIVE); PERCENT DOSE (CURRENT AND CUMULATIVE); ARITHMETIC MEAN; STANDARD DEVIATION; AMPLITUDE DISTRIBUTION (GRAPHICAL AND NUMERICAL); AND TIME HISTORY (GRAPHICAL).

①

Operator

```
ENTER LOG DATE (DD/MM/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : 0882
 ENTER JOB CODE (3 CHARS) : 170
  1  26  85  1216   60    64    4    1
    6549      105362  439
 76  60  60  67  73  75  65  60  67  71  60  60  60  65  60  67
 61  87  92  93  91  90  92  77  60  63  67  60  61  60  62  60
 60  84  87  84  81  77  62  65  69  74  74  76  80  84  64  71
 66  65  68  81  93  88  60  60  60  83  91  69  87  91  82  75
 71  72  69  73  65  67  62  65  74  77  74  62  72  78  91  91
 91  91  82  87  87  72  87  91  89  81  81  65  74  85  74  69
 71  76  60  68  61  60  61  60  68  73  65  60  74  78  78  68
 63  72  61  64  62  90  91  89  89  90  85  63  67  88  89  88
 87  89  88  84  84  84  80  79  89  91  90  87  81  93  91  91
 91  93  93  94  93  90  90  93  92  94  93  92  92  92  90  91
 91  91  93  94  92  88  85  68  80  74  73  74  64  69  62  69
 83  88  90  91  90  90  90  88  88  86  85  76  69  87  86  91
 63  60  60  71  89  90  85  93  92  77  60  63  60  60  62  88
 60  88  63  87  91  88  90  89  94  94  97  98  89  86  87  76
 65  92  92  88. 92  90  87  86  86  85  95  95  94  90  90  89
 89  88  86  88  90  89  87  71  82  76  63  68  71  78  69  93
 81  91  93  92  91  77  68  60  71  60  90  91  77  62  76  71
 60  60  68  79  78  78  71  62  60  81  75  73  72  77  83  85
 83  79  84  82  92  92  94  94  91  90  90  91  92  89  88  90
 91  93  94 107 109 111 107  87  86  86  88  89  92  95  88  90
 90  94  92  89  87  97 100. 89  72  76  94  94  78  80  93  94
 94  94  94  94  94  93  93  91  90  88  87  90  91  91  93  93
 93  89  73  60  60  60  60  60  77  60  80  83  81  79  87  81
 65  86  86  85  81  87  78  75  83  93  94  92  91  82  84  85
 84  91  90  66  60  60  87  84  60  61  60  60  71  67  64  75
 65  76  81  74  64  65  90  92  76  74  73  73  73  63  66  64
 67  62  70  77  62  74  75  65  61  63  60  60  60  70  70  60
 60  67  65  72  72  67  64  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED : 6 JUNE 1979             DATA ANALYZED : 15  AUG 1979
         LOGGER : DB-301/26                   SITE CODE : GRIND
  SERIAL NUMBER : 1216                         JOB CODE : 170
       BASELINE : 60 DB                       USER CODE : 0882
  DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  105362
  TEST DURATION =    7:19: 0               STANDBY TIME =   0:27:17

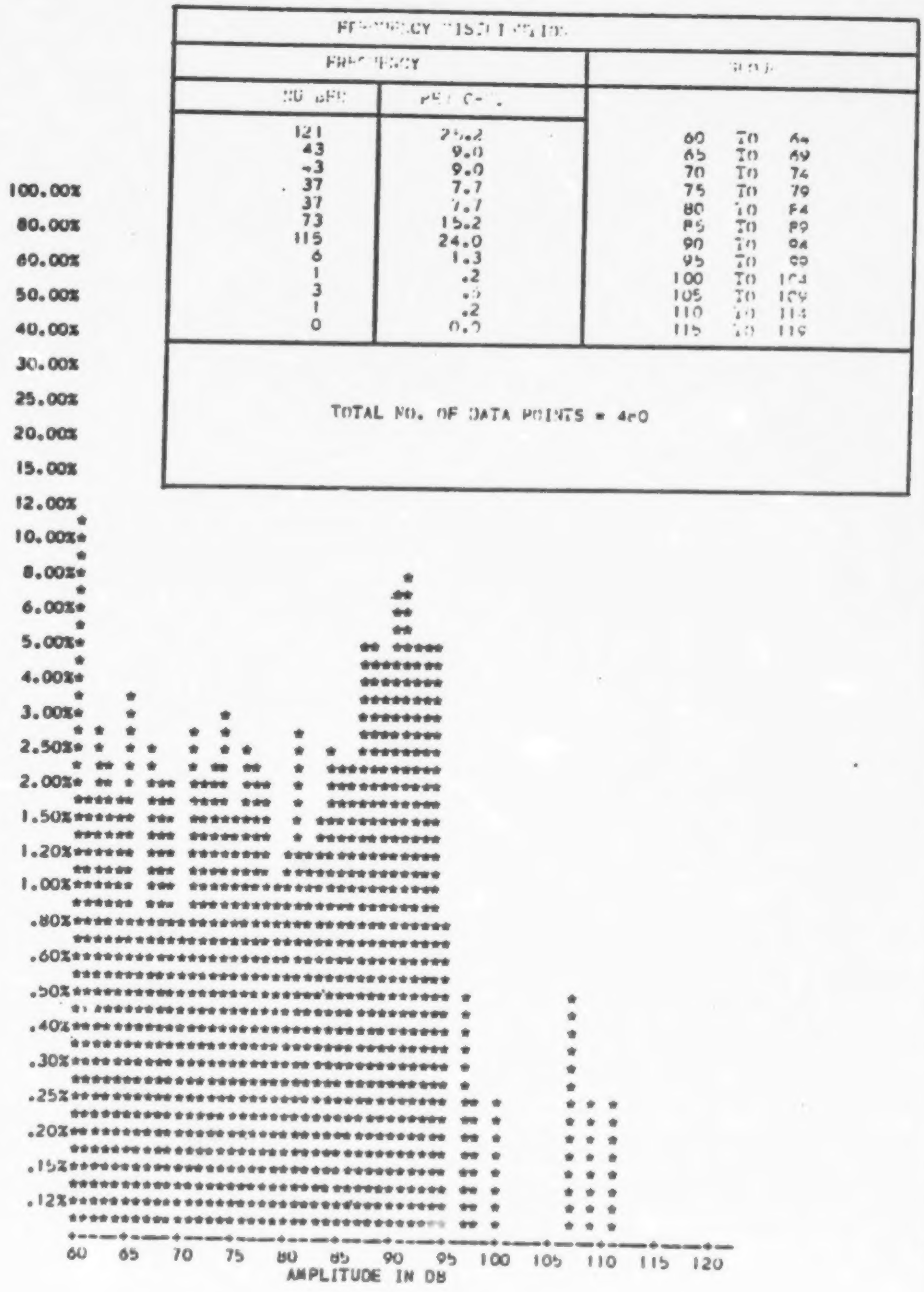
        TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 439
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
  1       80.3       80.3              3.249       3.25
  2       81.3       80.8              3.752       7.00
  3       88.8       84.5             10.517      17.52
  4       88.4       85.7              9.962      27.48
  5       85.1       85.6              6.376      33.86
  6       94.7       88.1             23.955      57.81
  7       82.3       87.5              4.273      62.08
  8       67.5       87.2               .174      62.26
MIN. COMP. =  60 DB                 MAX. COMP. = 111 DB
ARITHMETIC MEAN =  79 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

Amplitude Distribution

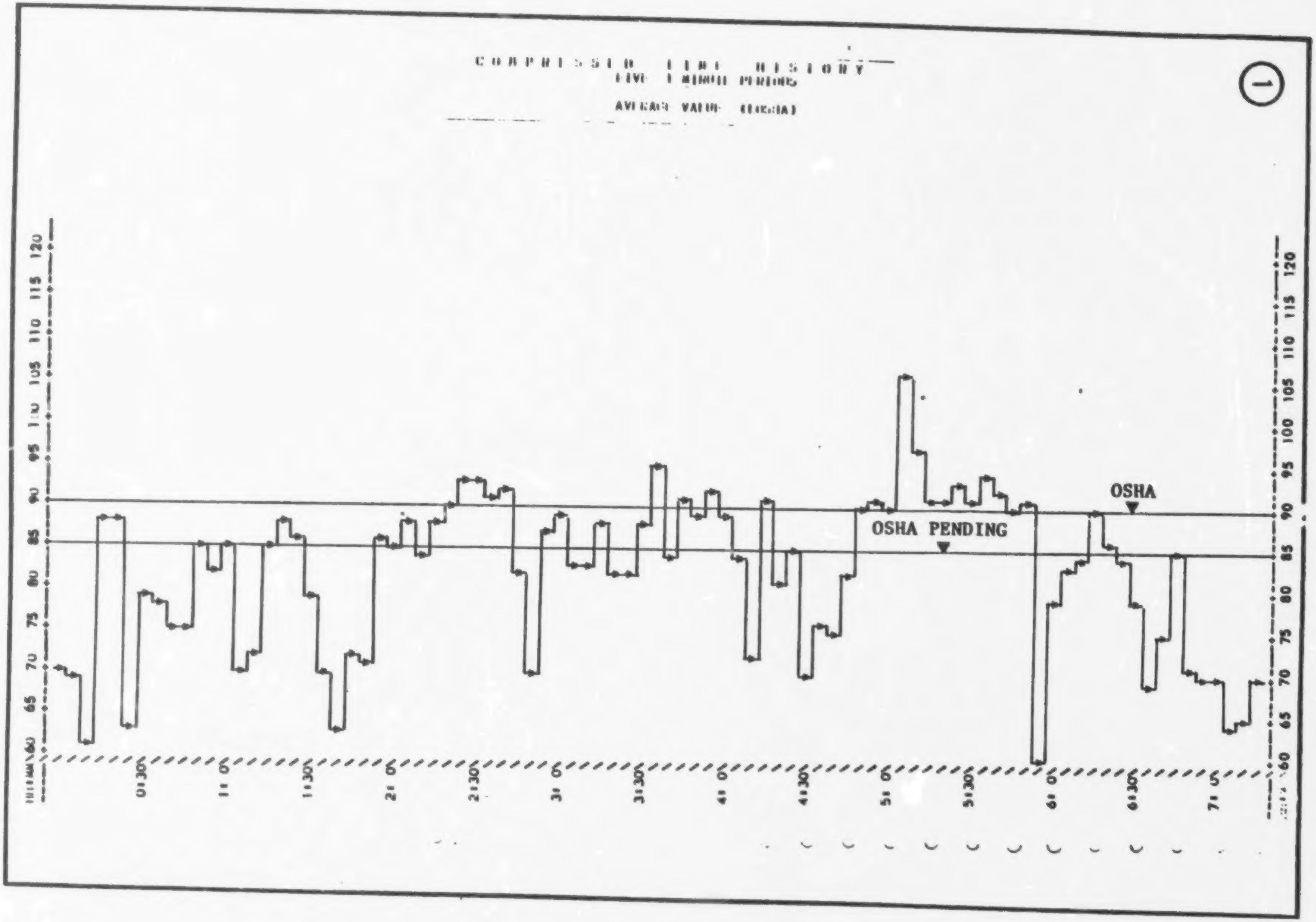
①



FREQUENCY DISTRIBUTION		
FREQUENCY		DB
NO OBS	PERCENT	
121	25.2	60 TO 64
43	9.0	65 TO 69
43	9.0	70 TO 74
37	7.7	75 TO 79
37	7.7	80 TO 84
73	15.2	85 TO 89
115	24.0	90 TO 94
6	1.3	95 TO 99
1	.2	100 TO 104
3	.6	105 TO 109
1	.2	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 439


①
COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (dBA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

Operator ②

```
[illegible]
 1  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  4   1
[illegible]      [illegible]  [illegible]
 60  83  97  76  81  77  84  76  91  92  90  92  91  86  91  83
 85  97  95  85  91  87  85  91  83  74  83  94  70  80  80  80
 80  80  80  85  83  80  80  86  83  84  93  86  74  91  [illegible] [illegible]
 80  82  91  82  87  83  90  87  83  85  87  89  71  90  84  87
 89  91  91  90  91  84  85  90  74  94  93  93  92  94  87  93
 94  95  94  91  85  73  80  78  [illegible] [illegible] 96  97  97  96  87  82
 83  86  80  74  80  80  80  80  83  80  94  91  85  75  94  93
 83  87  80  80  80  80  80  84  80  80  74  86  83  80  80  80
 60  80  89  81  87  87  80  80  83  90  80  84  83  86  89  80
 90  86  78  82  79  72  80  90  92  90  84  93  93  90  86  80
 91  90  84  80  80  60  78  86  73  78  86  92  92  90  92  90
 90  90  90  92  95  93  91  90  87  71  81  60  60  60  60  60
 80  82  84  86  91  91  93  93  93  92  91  92  80  60  60  60
 60  60  60  60  60  85  88  87  87  89  84  89  89  82  60  60
 60  60  60  60  60  60  91  88  87  83  60  60  60  74  84  80
 91  91  89  90  80  90  80  81  60  85  85  88  88  81  60  60
 60  60  60  60  60  60  60  85  86  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  82  87  87  83  90  93  92  87  86
 84  60  84  85  85  86  88  87  88  84  60  66  60  60  63  60
 60  85  89  89  80  60  60  60  60  60  60  60  60  85  89  86
 92  90  88  88  81  60  60  60  60  60  60  62  83  88  90  82
 90  87  84  85  80  78  79  74  83  87  84  90  88  90  93  91
 91  88  91  78  60  60  60  84  80  89  60  60  60  60  60  67
 89  87  86  60  60  60  60  60  60  60  60  60  67  62  60  60
 60  60  60  90  93  92  90  90  84  60  84  60  66  90  90  84
 90  89  83  84  89  86  60  60  85  71  60  60  67  60  62  97
 89  63  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF
```

```
ENTER LOG DATE (DD/MM/YR) : 30/05/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0044
 ENTER JOB CODE (3 CHARS) : 172
```

```
    DATA LOGGED : 30 MAY 1979             DATA ANALYZED : 27 NOV 1979
         LOGGER : GP-301/26                   SITE NAME : GRI[illegible]
 SERIAL NUMBER : 1216                          JOB CODE : 172
       BASELINE : 60 DB                        USER CODE : 0044
 DYNAMIC RANGE : 64 DB                         THRESHOLD : 85 DB
 SAMPLING RATE : 4/SEC                    TOTAL SAMPLES = [illegible]
 TEST DURATION = 6H54M16                    STANDBY TIME = 12:1422

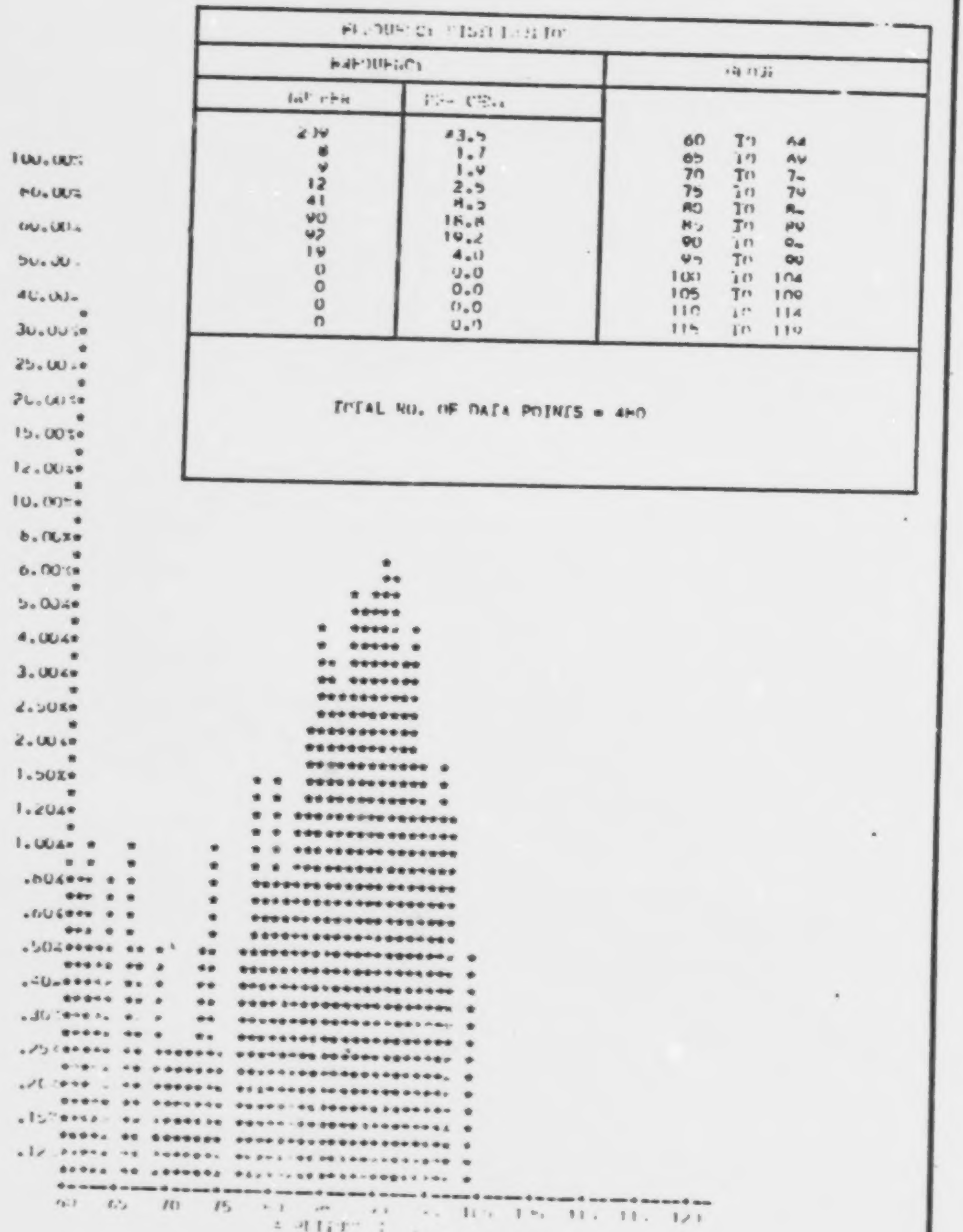
            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
WORK DAY = 20 [illegible] / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 41
PERIOD = 1 HOURS

 TIME           LOG AV                        DOSE
 HOUR      CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1         88.8       88.8            10.549     10.55
   2         90.2       89.5            12.856     23.41
   3         85.4       88.4             6.594     30.00
   4         84.6       87.6             5.922     35.92
   5         83.3       86.9             4.904     40.83
   6         84.2       86.5             5.588     46.41
   7         83.0       86.1             4.590     51.00
MIN. COMP. =  60 DB                   MAX. COMP. =  99 DB
MID [illegible] =  77 DB
STD. DEVIATION =  14 DB
[illegible] =-196
```

②

Amplitude Distribution



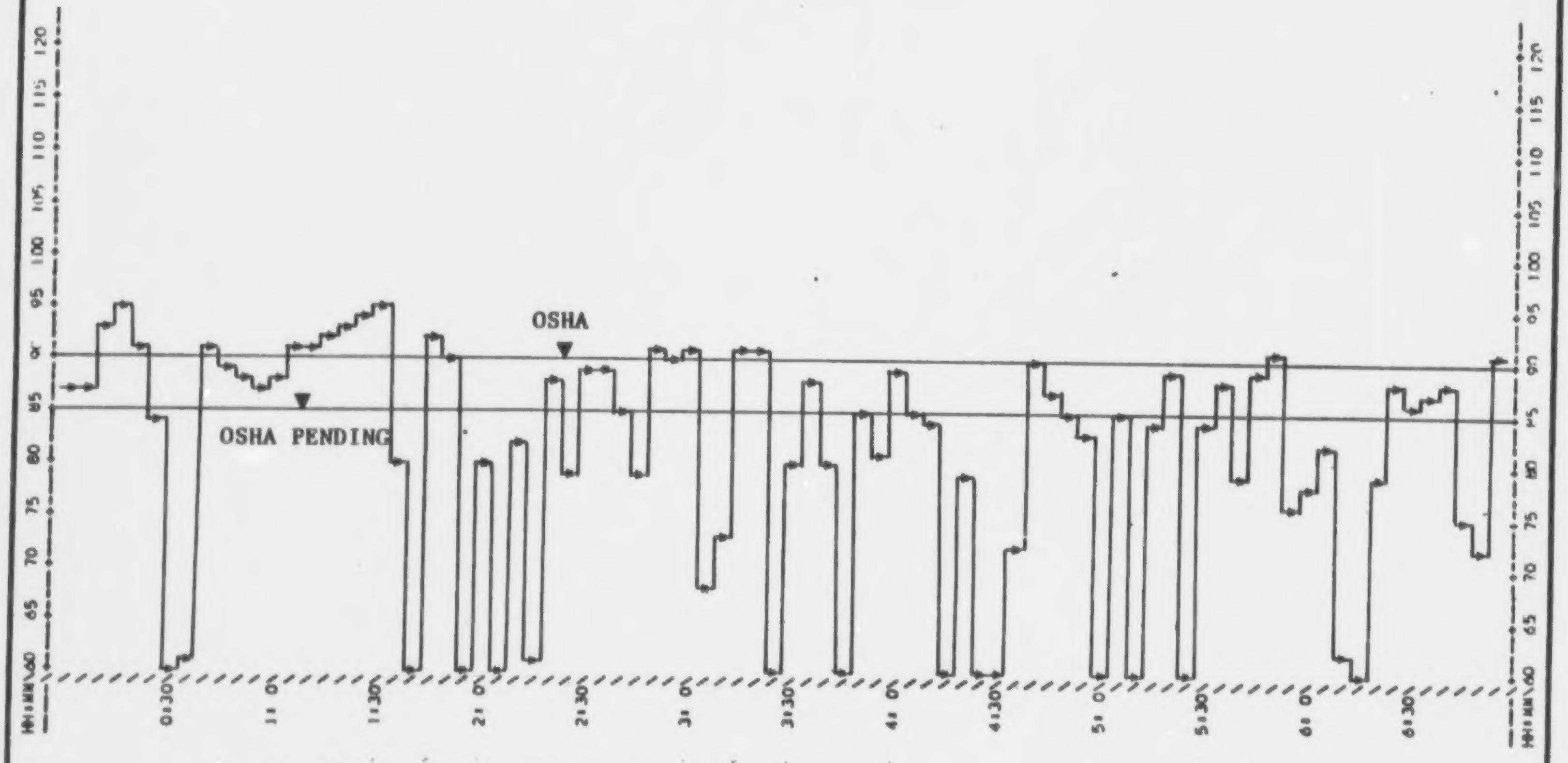
FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
209	43.5	60 TO 64
8	1.7	65 TO 69
9	1.9	70 TO 74
12	2.5	75 TO 79
41	8.5	80 TO 84
90	18.8	85 TO 89
92	19.2	90 TO 94
19	4.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 418

C O M P R E S S E D   T I M E   H I S T O R Y
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



②

③

Operator

```
ENTER LOG DATE (DD/MM/YR) : 08/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0391
 ENTER JOB CODE (3 CHARS) : 172
  1  26  85  1212   60   64    4    1
   24462      102337  426
  63  60  60  81  71  66  81  77  75  66  75  63  65  80  80  70
  77  79  66  61  74  82  71  73  69  75  87  80  60  89  92  93
  93  93  93  96  96  97  96  96  90  93  94  91  93  94  94  95
  94  84  80  93  85  85  87  86  84  85  85  86  86  92  79  73
  91  86  77  79  80  75  72  78  79  73  71  84  79  72  69  80
  79  77  83  81  76  81  82  79  69  68  71  75  71  73  78  70
  71  67  86  72  66  73  68  75  74  72  71  68  78  75  68  73
  73  75  79  77  72  72  77  67  71  75  65  79  70  67  78  66
  64  72  68  74  73  69  77  71  69  71  70  74  84  74  66  65
  73  71  83  80  69  74  75  72  74  74  75  79  77  76  72  72
  68  67  71  82  81  67  68  77  83  67  75  74  78  79  73  68
  72  79  82  74  68  66  68  69  68  73  73  76  77  79  78  77
  80  80  75  75  77  83  70  78  77  84  80  76  72  66  78  66
  67  68  81  73  73  65  65  63  66  70  67  67  65  64  68  64
  73  75  68  67  67  70  67  63  66  80  61  65  67  62  68  68
  66  71  82  79  72  77  69  65  63  70  78  68  60  60  60  60
  60  60  61  60  64  60  60  60  60  60  60  60  60  67  66  66
  85  87  80  78  77  77  77  77  78  80  75  79  80  78  77  67
  69  77  76  75  76  79  78  79  75  78  82  82  81  82  74  81
  70  69  73  70  75  70  74  77  81  71  82  68  72  68  71  76
  75  72  77  76  79  81  83  80  83  77  73  66  64  71  77  87
  88  85  84  82  77  81  82  80  85  80  80  83  83  82  81  85
  78  79  78  80  84  82  67  64  65  68  66  69  85  82  82  84
  79  80  69  68  77  78  77  84  83  78  80  78  82  78  79  84
  80  75  78  79  79  80  78  73  75  82  81  85  72  78  83  81
  86  87  84  85  84  79  80  90  78  70  80  71  65  70  72  70
  74  72  72  78  79  74  65  81  71  70  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 8 JUNE 1979              DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : GRIND
 SERIAL NUMBER : 1212                          JOB CODE : 172
      BASELINE : 60 DB                        USER CODE : 0391
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  102337
 TEST DURATION =   7: 6:24                 STANDBY TIME =   1:41:55

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 425
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      87.9       87.9            9.296      9.30
   2      78.4       84.6            2.488     11.78
   3      75.0       82.5            1.564     13.35
   4      73.5       81.1            1.275     14.62
   5      75.1       80.3            1.590     16.21
   6      79.4       80.1            2.865     19.06
   7      79.8       80.1            3.027     22.11
   8      78.7       80.1             .260     22.37
MIN. COMP. =  60 DB                MAX. COMP. =  97 DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =   8 DB
VARIANCE = 64 DB
```

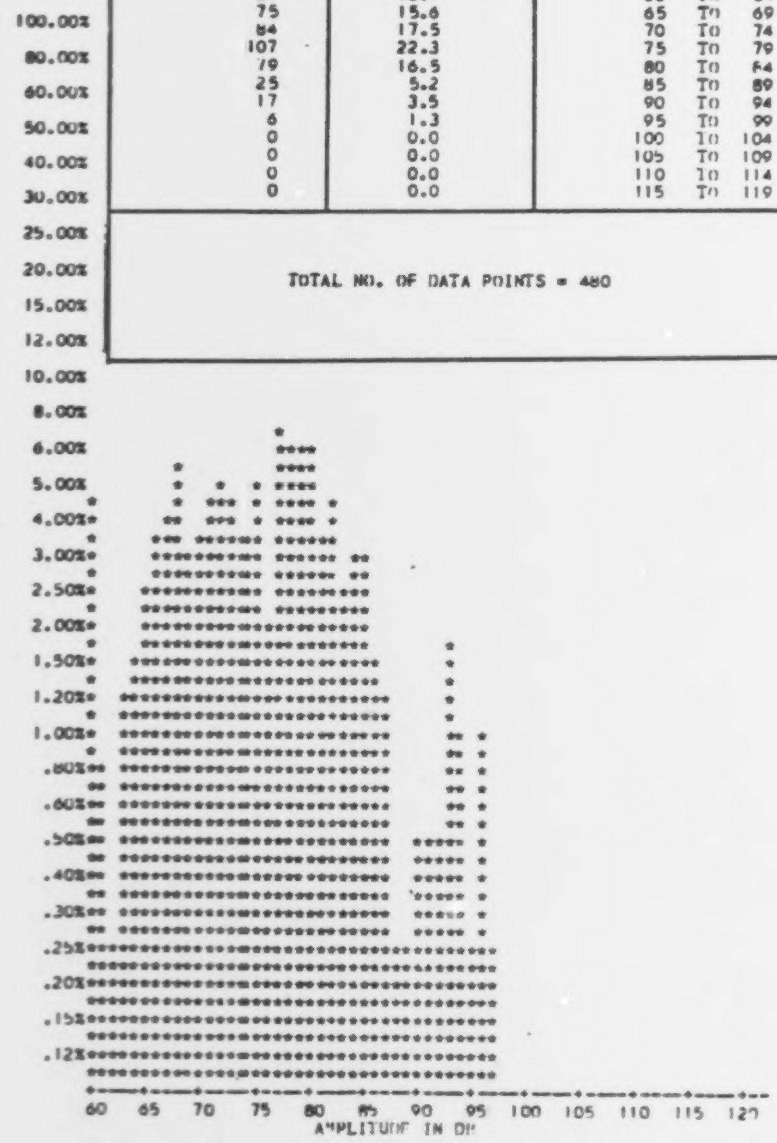
③

Operator

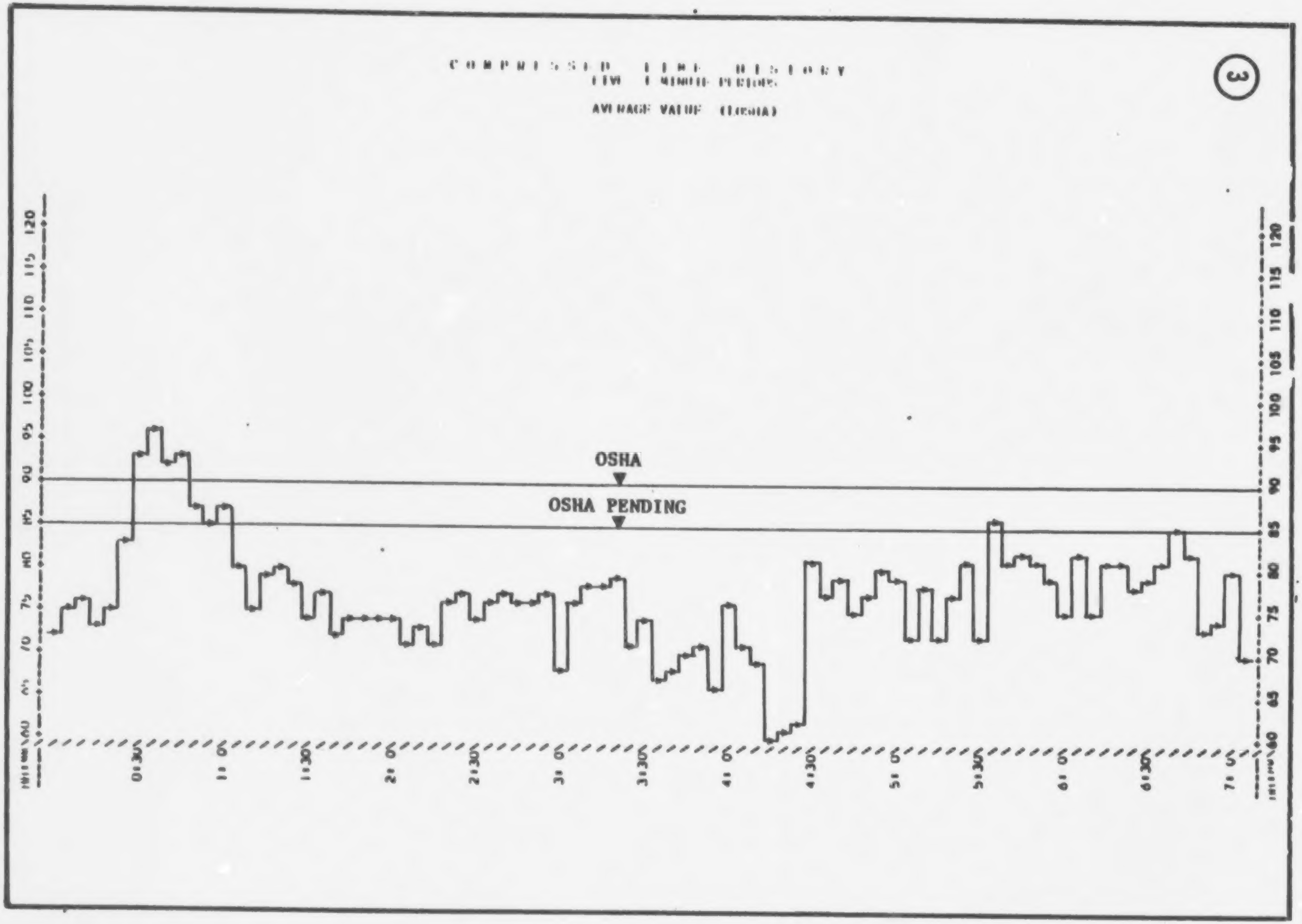
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
87	18.1	60 TO 64
75	15.6	65 TO 69
84	17.5	70 TO 74
107	22.3	75 TO 79
79	16.5	80 TO 84
25	5.2	85 TO 89
17	3.5	90 TO 94
6	1.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 426


③
COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

Operator ④

```
ENTER LOG DATE (MO/DA/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0391
 ENTER JOB CODE (3 CHARS) : 172

  1  26  85  1215   60   64    4    1
   5896    104512  435
  76  74  75  92  63  89  78  68  69  74  67  75  76  92  92  91
  91  94  96  95  95  92  92  82  68  64  62  70  60  60  60  72
  79  85  79  77  65  83  76  81  79  81  86  60  64  60  60  68
  60  60  69  69  76  68  79  80  84  72  86  86  88  76  79  63
  61  65  61  63  64  73  67  72  75  70  68  89  91  91  91  91
  95  96  95  93  90  85  83  82  88  92  81  76  73  82  76  78
  72  75  74  69  65  75  80  79  69  70  80  80  82  75  73  76
  71  75  72  89  89  88  89  88  60  60  60  60  60  68  85  90
  89  82  83  87  88  91  91  91  91  94  95  95  95  92  92  93
  94  94  94  93  93  94  90  94  92  92  91  91  91  91  92  92
  93  94  95  95  94  92  93  93  89  67  63  72  65  80  92  93
  94  93  93  93  93  93  93  93  93  93  93  93  93  93  93  94
  96  94  95  95  92  92  92  91  92  89  82  84  82  69  73  73
  62  90  91  89  91  94 100  94  95  91  89  98  93  86  86  88
  87  87  89  88  86  85  86  89  99  95  90  89  90  89  69  89
  88  89  90  92  84  67  71  62  60  60  78  68  85  93  97  94
  92  91  86  62  89  64  60  60  64  71  62  67  66  64  60  63
  68  68  69  73  78  71  64  74  71  71  70  67  78  76  72  74
  73  81  92  91  97  96  90  89  89  93  90  88  88  94  90  90
  90  92  93  94  93  88  86  85  87  89  86  87  87  89  91  91
  88  91  87  98 102  93  94  94  92  90  91  91  94  94  94  94
  95  91  79  92  92  92  87  89  88  91  90  94  96  93  91  91
  89  90  91  95  95  94  94  96  94  93  91  80  89  83  90  88
  69  82  81  80  81  76  77  91  92  93  92  92  96  96  96  97
  93  94  93  94  90  86  81  60  60  60  60  60  60  60  60  86
  90  74  68  64  78  76  76  71  66  71  60  67  72  71  69  69
  74  88  83  77  79  82  85  77  76  82  65  89  72  60  64  67
  68  70  71  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


   DATA LOGGED : 6 JUNE 1979            DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : GRIND
 SERIAL NUMBER : 1215                        JOB CODE : 0391
      BASELINE : 60 DB                      USER CODE : 172
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  104512
 TEST DURATION =    7:15:28              STANDBY TIME =   0:24:34

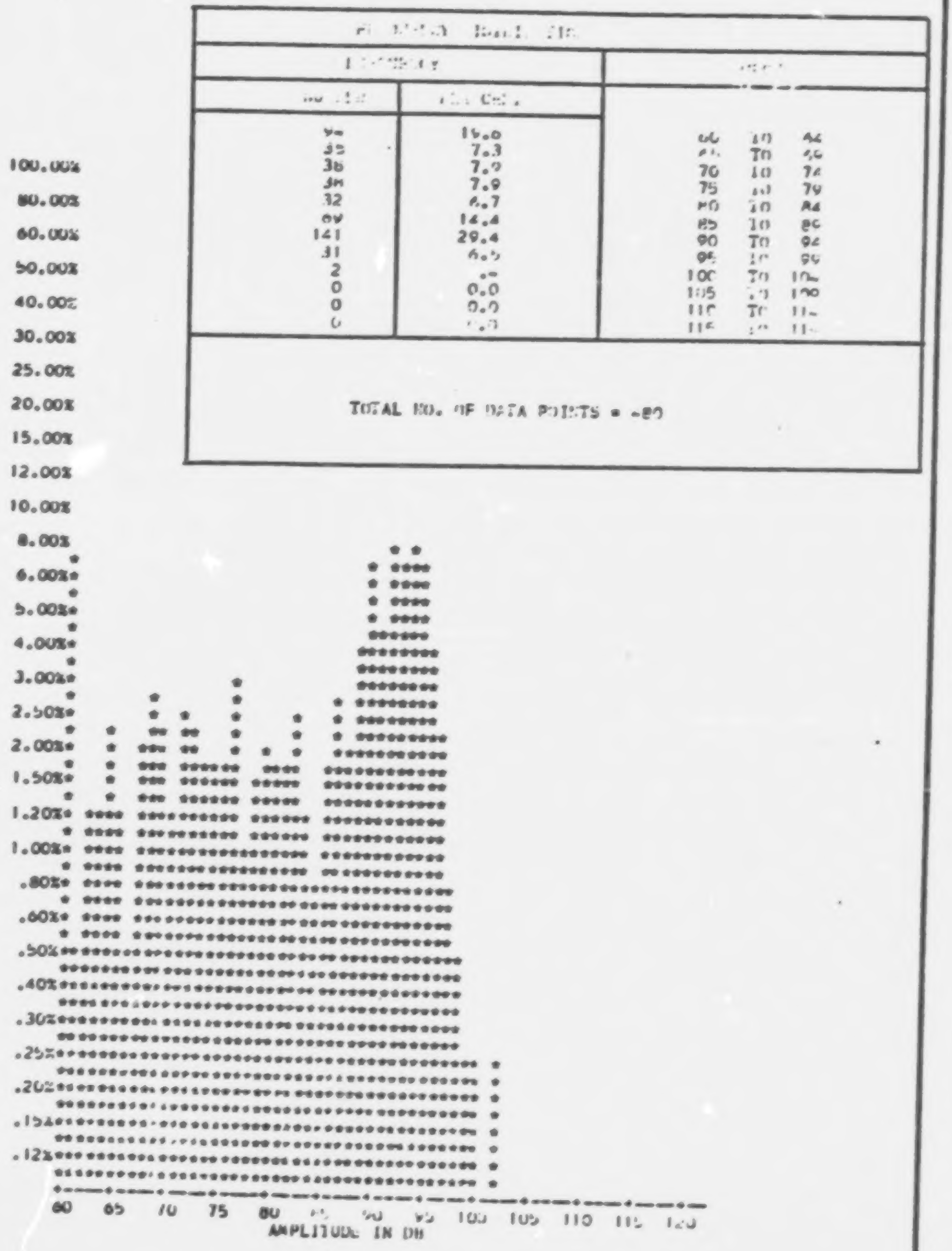
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 435
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      83.8       83.8           5.275       5.26
   2      84.3       84.0           5.662      10.94
   3      90.8       87.1          14.061      25.00
   4      91.5       88.5          15.347      40.35
   5      85.2       87.9           6.385      46.73
   6      92.1       88.8          16.642      63.37
   7      85.9       88.5           8.092      71.46
   8      73.2       88.3            .612      72.07
MIN. COMP. =  60 DB                MAX. COMP. = 102 DB
ARITHMETIC MEAN =  82 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

④

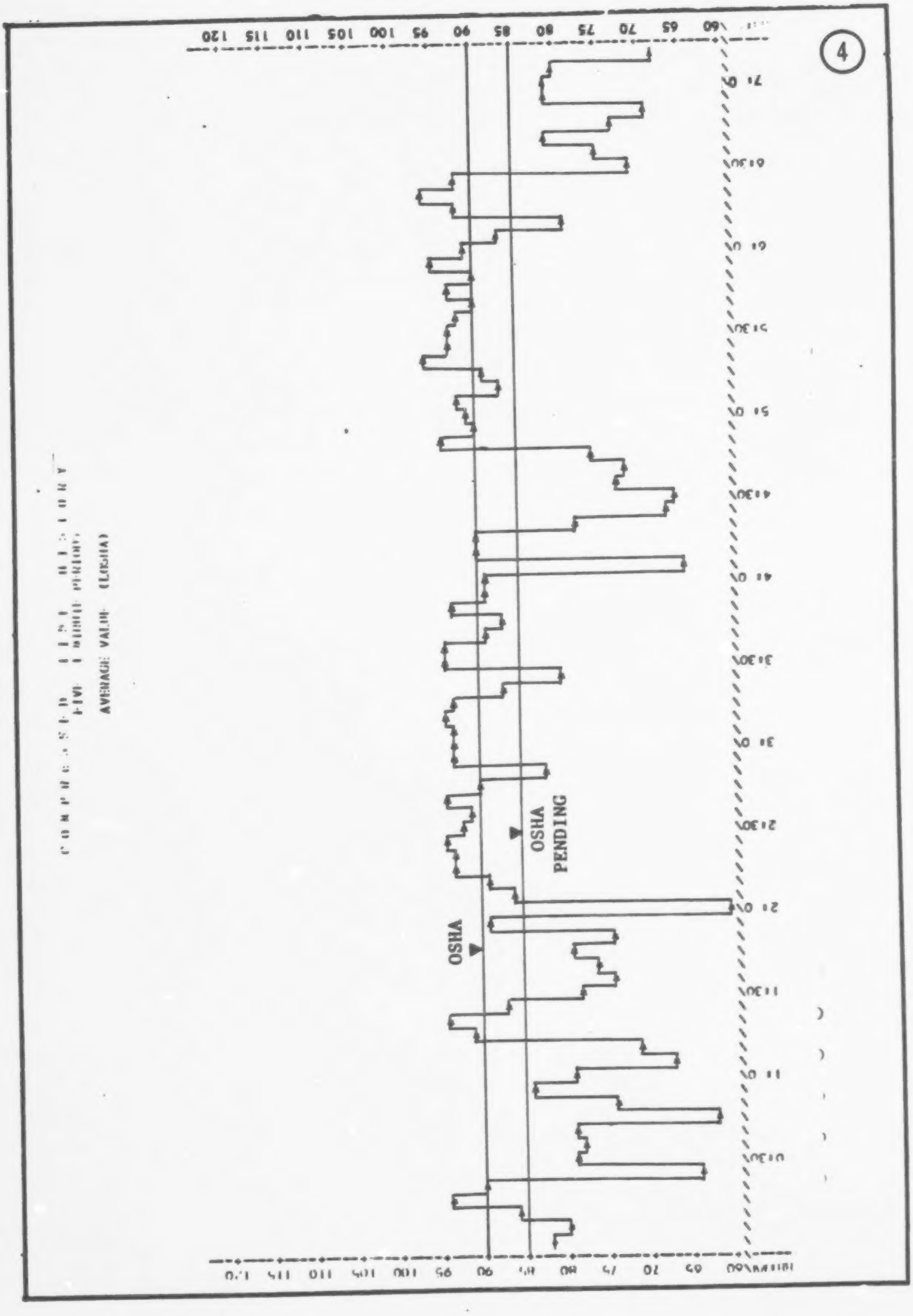
Amplitude Distribution



[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
94	19.6	60 TO 64
35	7.3	65 TO 69
38	7.9	70 TO 74
38	7.9	75 TO 79
32	6.7	80 TO 84
69	14.4	85 TO 89
141	29.4	90 TO 94
31	6.5	95 TO 99
2	[illegible]	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 435


④
COMPRESSED LIFE HISTORY
FIVE MINUTE PERIOD
AVERAGE VALUE (LEQ/HA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11:0
11:30
12:0
12:30
13:0
13:30
14:0
14:30
15:0
15:30
16:0
16:30
17:0

⑤

Mechanic

```
ENTER LOG DATE (MO/DA/YR) : 06/06/79

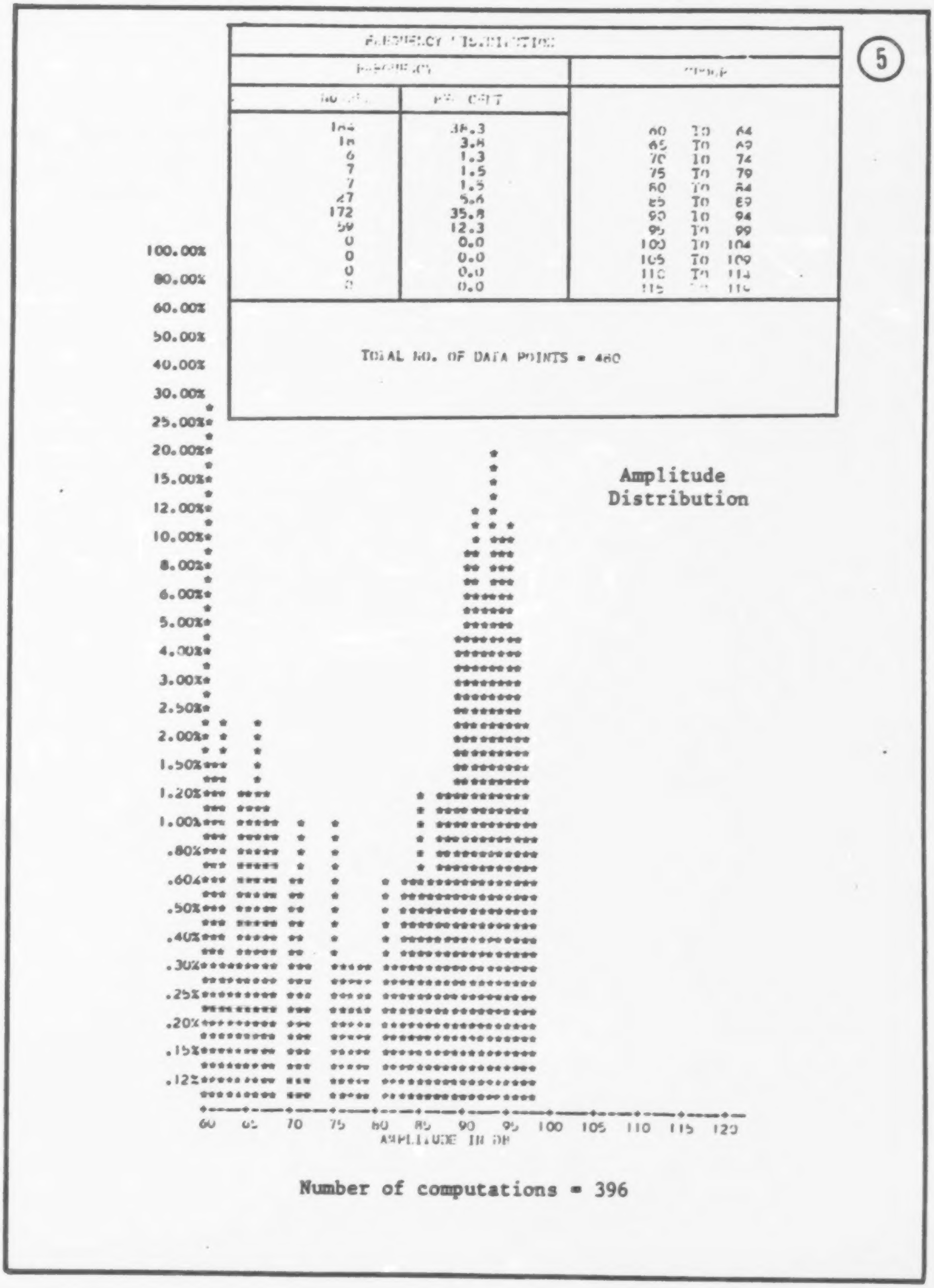
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0517
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1218   60   64   4    1
   14411      95090  396
  71  88  92  90  91  91  90  89  90  91  92  92  91  90  93  95
  91  90  91  91  90  91  90  91  90  91  91  91  91  91  90  92
  91  90  87  91  90  91  81  75  80  70  66  60  67  60  60  81
  60  60  60  60  67  77  76  92  93  93  92  92  92  91  89  66
  65  60  60  60  60  60  60  60  60  60  68  86  89  93  94  92
  93  93  91  91  91  91  91  91  91  90  90  90  91  89  90  92
  93  92  92  91  91  90  90  89  90  90  89  91  92  94  94  94
  92  92  94  93  91  91  92  87  94  95  94  95  95  93  93  94
  95  94  94  96  97  91  93  93  94  89  91  93  94  93  93  93
  93  93  93  89  60  60  60  60  67  60  92  93  93  94  95  97
  98  94  93  93  93  96  93  93  93  93  93  93  94  93  93  93
  84  68  75  60  66  65  60  60  60  60  60  60  62  60  60  60
  60  60  60  65  60  62  72  85  94  93  94  93  94  95  98  97
  93  93  93  86  85  64  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  61  60  60  64  60  60  60  60  60  60
  60  62  60  60  60  62  60  66  67  66  62  60  60  63  75  82
  60  62  71  64  64  79  65  71  70  61  60  60  66  85  91  93
  94  96  96  95  93  93  93  93  93  95  95  95  95  93  93  93
  93  94  94  93  93  93  94  95  94  93  94  95  94  97  98  93
  95  94  95  90  83  83  87  91  93  93  88  60  62  84  89  93
  95  94  93  94  94  95  95  94  94  95  95  95  95  95  95  96
  91  91  89  89  90  90  90  90  90  90  61  60  60  60  60  60
  61  68  91  89  85  93  95  96  96  96  95  96  95  97  97  95
  96  97  96  95  95  95  96  96  95  95  96  93  92  95  88  60
  60  60  60  60  60  61  66  78  89  87  86  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 6 JUNE 1979            DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : GRIND
 SERIAL NUMBER : 1218                        JOB CODE : 001
      BASELINE : 60 DB                      USER CODE : 0517
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =   95090
 TEST DURATION =    6:36:12              STANDBY TIME =    1: 0: 2

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 396
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      88.7       88.7           10.414     10.41
   2      89.8       89.2           12.101     22.51
   3      92.5       90.5           17.564     40.08
   4      83.1       89.2            4.813     44.89
   5      89.1       89.2           11.105     56.00
   6      91.5       89.6           15.401     71.40
   7      92.4       89.9           10.489     81.89
MIN. COMP. =  60 DB                MAX. COMP. =  98 DB
ARITHMETIC MEAN =  82 DB
STD. DEVIATION =  14 DB
VARIANCE =196 DB
```



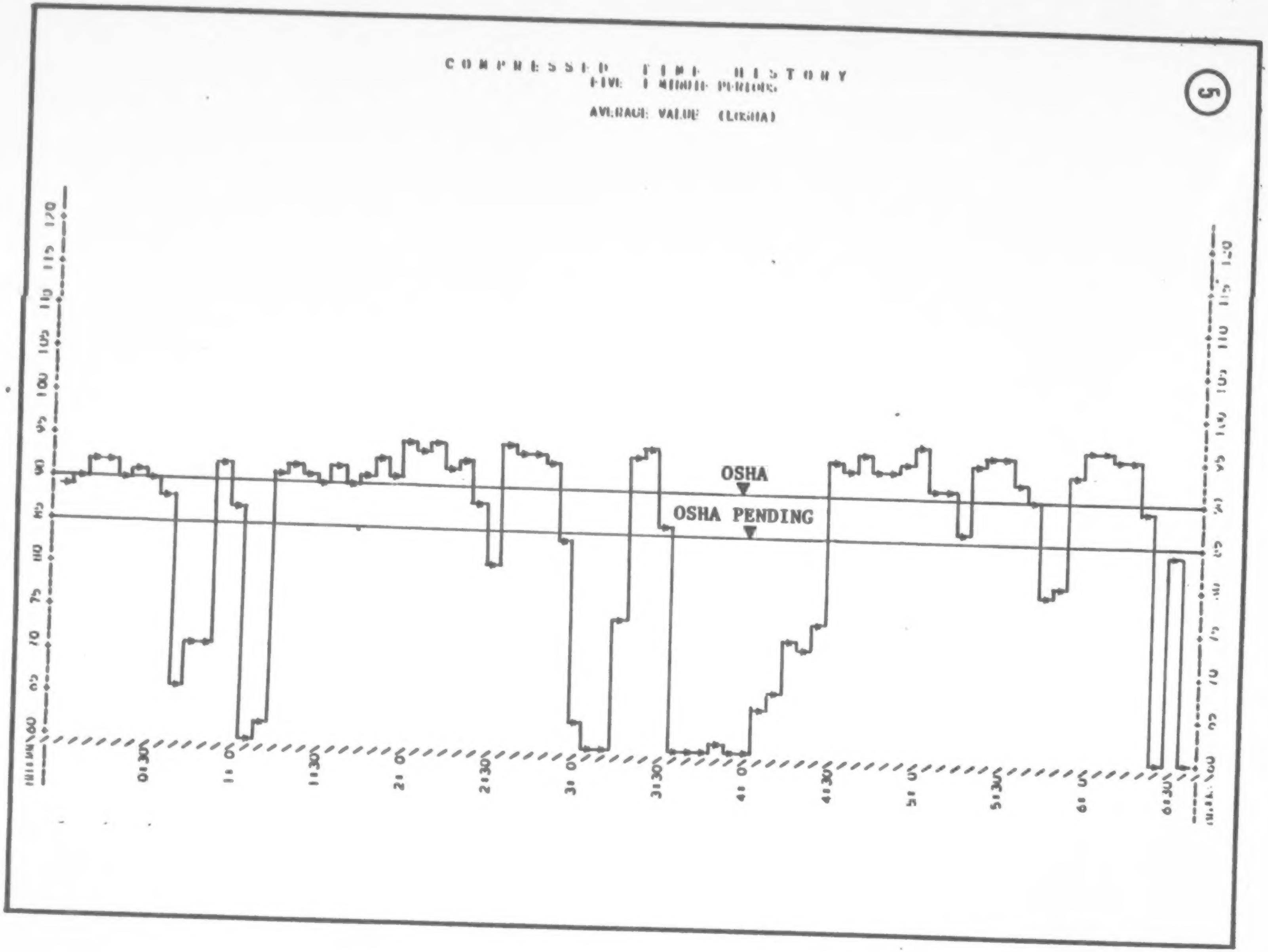
⑤

FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NO. OF	PER CENT	
184	38.3	60 TO 64
18	3.8	65 TO 69
6	1.3	70 TO 74
7	1.5	75 TO 79
7	1.5	80 TO 84
27	5.6	85 TO 89
172	35.8	90 TO 94
59	12.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution

Number of computations = 396


COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
5
OSHA
OSHA PENDING
MINIMUM/60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30

Mechanic ⑥

```
ENTER LOG DATE (DD/MM/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0900

 ENTER JOB CODE (3 CHARS) : 01H
  1  26  85  1225   60   64    4    1
   18490        93518  389
  61  88  92  92  91  91  92  91  90  90  91  91  91  91  91  92
  92  92  92  92  90  90  91  90  90  90  90  90  93  92  92  92
  92  92  91  92  92  92  92  93  93  91  93  88  81  68  69  71
  65  73  61  60  74  79  63  60  60  68  76  71  90  92  92  91
  92  92  92  91  75  60  60  60  65  71  70  72  60  60  60  65
  85  91  91  91  91  91  91  91  92  92  91  92  92  91  91  91
  92  92  92  92  93  94  93  92  93  94  93  91  91  91  92  91
  89  94  95  94  94  94  94  94  94  93  92  93  88  92  96  95
  95  95  95  94  94  95  95  95  95  99  93  93  94  98  91  95
  95  95  94  94  94  94  94  93  94  94  94  97  94  95  95  95
  96  94  95  96  87  89  90  92  94  94  94  96  95  94  95  95
  95  94  93  94  94  92  66  78  66  73  60  60  60  60  60  60
  60  68  63  61  61  60  60  60  60  60  72  60  92  94  95  95
  94  95  95 100 100  94  94  95  91  89  71  64  60  71  61  60
  61  60  60  60  60  60  60  60  60  60  60  62  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  67  72  92  91  90
  89  89  91  95  95  94  97  95  95  95  95  94  95  95  94  95
  94  95  95  96  95  96  97 100  99  97  96  95  95  96  97  98
  98 100  98  96  95  95  95  97  95  95  95  96  98  95  95  94
  92  93  99 102 102  97  94  96  95  94  95  94  94  94  94  95
  96  96  96  97  97  95  97  95  96  96  95  95  92  93  94  96
  94  94  93  91  89  93  92  91  91  91  91  95  96  92  93  87
  68  68  72  71  68  70  78  86  94  85  92  94  95  97  95  99
  99  99  99  97  96  96  96  97  97  97  97  96  95  97  97  98
  95  87  86  79  73  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
                                              SITE CODE : GRIND
SERIAL NUMBER : 1225                           JOB CODE : 018
     BASELINE : 60 DB                         USER CODE : 0900
DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   93518
TEST DURATION =   6:29:39                  STANDBY TIME =   1:17: 4

         TIME HISTORY ANALYSIS

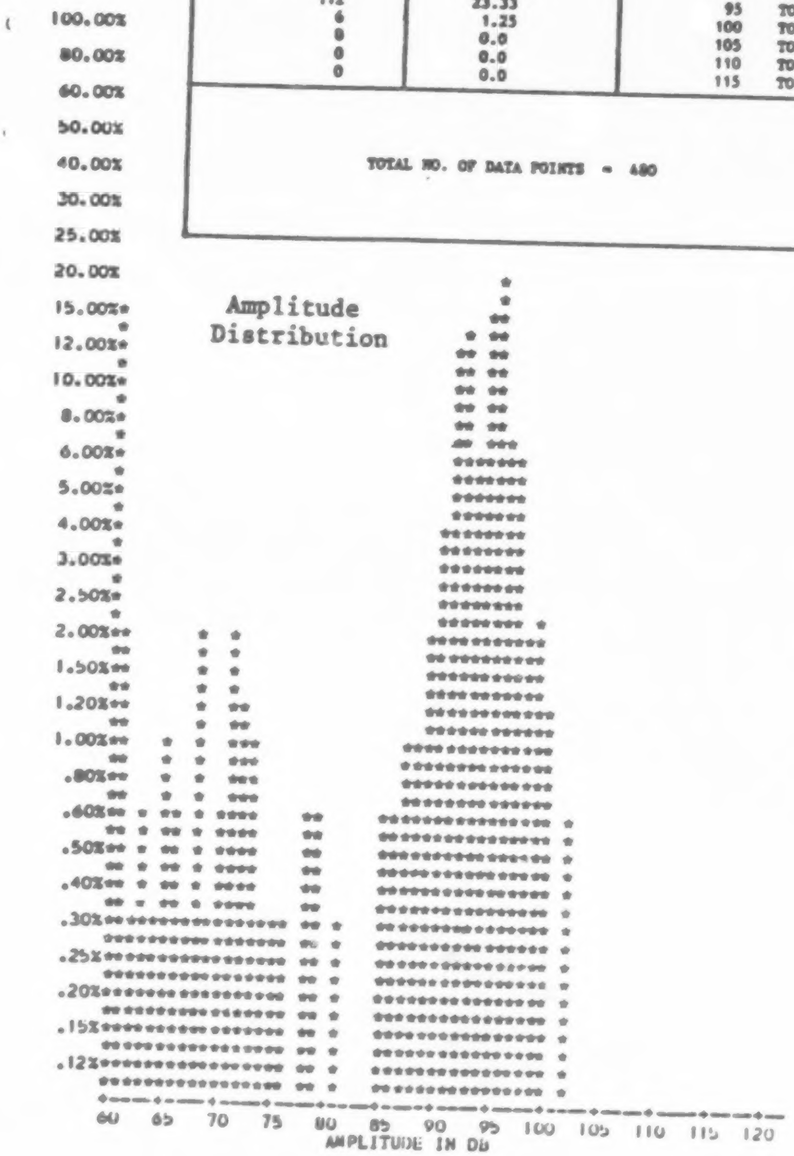
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 389
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1      89.1      89.1           11.027      11.03
   2      90.5      89.8           13.371      24.40
   3      94.3      91.6           22.636      47.03
   4      85.6      90.5            6.790      53.82
   5      93.8      91.3           21.078      74.90
   6      94.0      91.8           21.806      96.71
   7      95.5      92.2           12.940     109.65
MIN. COMP. =  60 DB              MAX. COMP. = 102 DB
ARITHMETIC MEAN =  86 DB
STD. DEVIATION =  13 DB
VARIANCE =169 DB
```

⑥

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
146	30.42	60 TO 64
13	2.71	65 TO 69
16	3.33	70 TO 74
6	1.25	75 TO 79
7	0.21	80 TO 84
16	3.33	85 TO 89
160	33.33	90 TO 94
112	23.33	95 TO 99
6	1.25	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

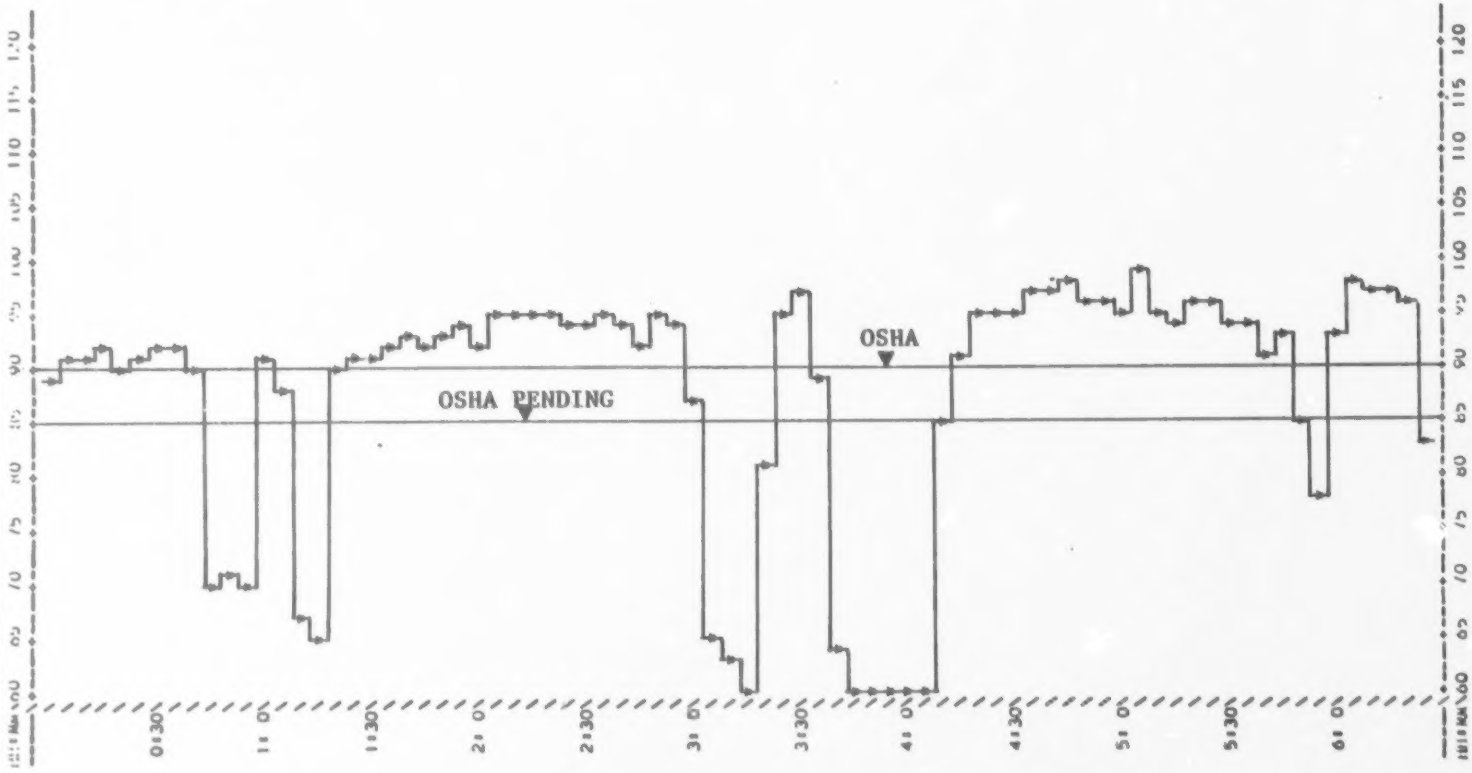


Amplitude Distribution

Number of computations = 389

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑥

⑦

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0179
 ENTER JOB CODE (3 CHARS) : 018
  1  26  85  1212   60   64    4    1
   18041      96637  402
  74  92  91  91  90  91  90  90  90  91  90  89  90  91  91  84
  87  87  88  90  92  82  73  70  60  60  60  60  60  60  62  72
  71  88  91  91  90  89  78  71  60  89  90  91  90  91  91  91
  92  92  91  91  91  92  92  91  73  75  73  75  68  73  72  67
  89  91  91  89  61  60  61  60  66  60  60  60  60  61  61  62
  60  60  60  60  70  83  89  93  89  91  91  91  90  90  90  90
  90  90  90  90  90  90  90  90  90  90  90  90  84  81  88  90
  91  91  90  90  90  90  91  91  91  91  91  91  91  90  91  91
  91  91  91  91  92  91  91  91  92  91  91  91  92  94  90  89
  93  92  91  91  91  91  91  90  91  91  91  91  91  91  91  91
  92  92  90  60  60  60  60  60  85  93  92  91  92  92  91  90
  91  89  89  83  89  88  86  88  85  86  79  80  87  91  91  91
  60  63  61  60  60  60  71  75  87  86  89  91  92  83  76  75
  83  83  90  83  64  60  61  72  79  61  80  65  60  63  65  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  62
  60  60  60  60  60  60  60  60  60  60  60  60  63  62  61  64
  71  67  90  92  90  91  93  92  91  91  92  92  92  93  90  90
  89  88  90  90  90  88  86  76  90  91  91  91  89  90  89  90
  91  92  92  92  91  92  93  91  87  83  75  60  60  60  60  62
  60  60  60  60  60  60  60  61  77  83  86  85  90  93  96  94
  90  89  88  85  89  65  76  91  94  92  93  93  92  89  73  82
  88  85  89  72  72  65  86  90  70  69  63  73  62  81  72  72
  66  63  61  79  86  77  82  77  72  79  60  81  58  86  88  87
  88  88  84  87  88  88  88  88  92  90  88  88  87  87  88  88
  88  88  88  89  88  88  87  89  60  60  88  91  92  94  94  93
  80  76  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 6 JUNE 1979              DATA ANALYZED : 15  AUG 1979
        LOGGER : Db-301/26                    SITE CODE : GRIND
 SERIAL NUMBER : 1212                          JOB CODE : 018
      BASELINE : 60 Db                        USER CODE : 0179
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   96637
 TEST DURATION =   6:42:39                 STANDBY TIME =   1:15:10

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 Db / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 Db
  NUMBER OF COMPUTATIONS = 402
PERIOD =  1 MINUTES

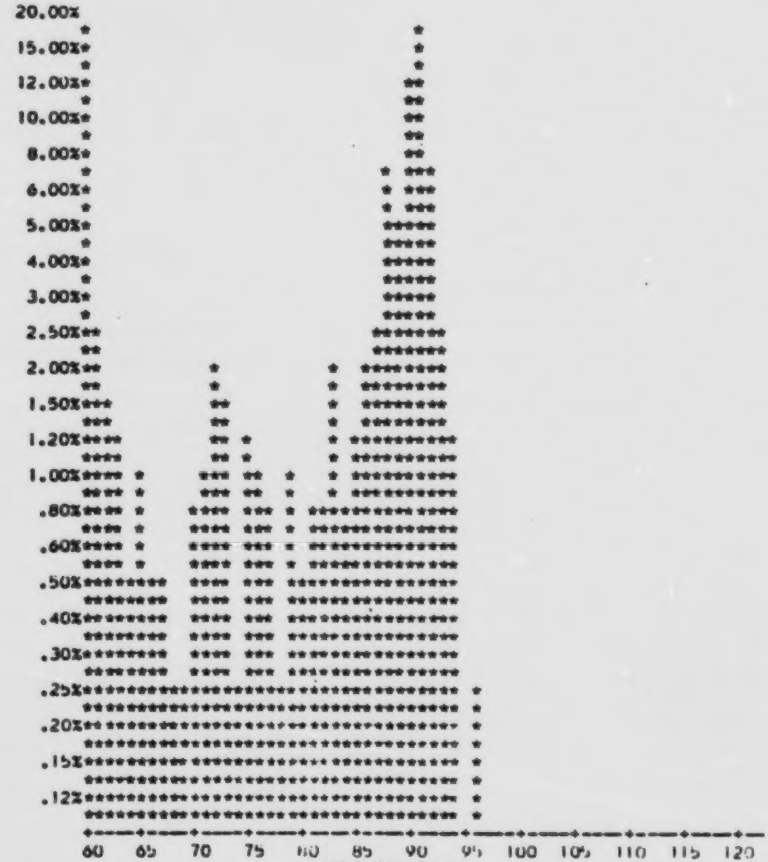
TIME          LOSHA                          %DOSE
HOUR   CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
   1     87.7      87.7               9.093      9.09
   2     86.9      87.3               8.085     17.18
   3     90.4      88.5              13.151     30.33
   4     80.9      87.2               3.549     33.88
   5     87.6      87.3               8.995     42.87
   6     84.6      86.9               5.944     48.82
   7     87.7      87.0               6.355     55.17
MIN. COMP. =  60 DB                MAX. COMP. =  96 DB
ARITHMETIC MEAN =  80 DB
STD. DEVIATION =  13 DB
VARIANCE =169 DB
```

⑦

FREQUENCY DISTRIBUTION		
FREQUENCY		[illegible]
NUMBER	PER CENT	
172	35.8	60 TO 64
10	2.1	65 TO 69
22	4.6	70 TO 74
17	3.5	75 TO 79
19	4.0	80 TO 84
71	14.8	85 TO 89
168	35.0	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution

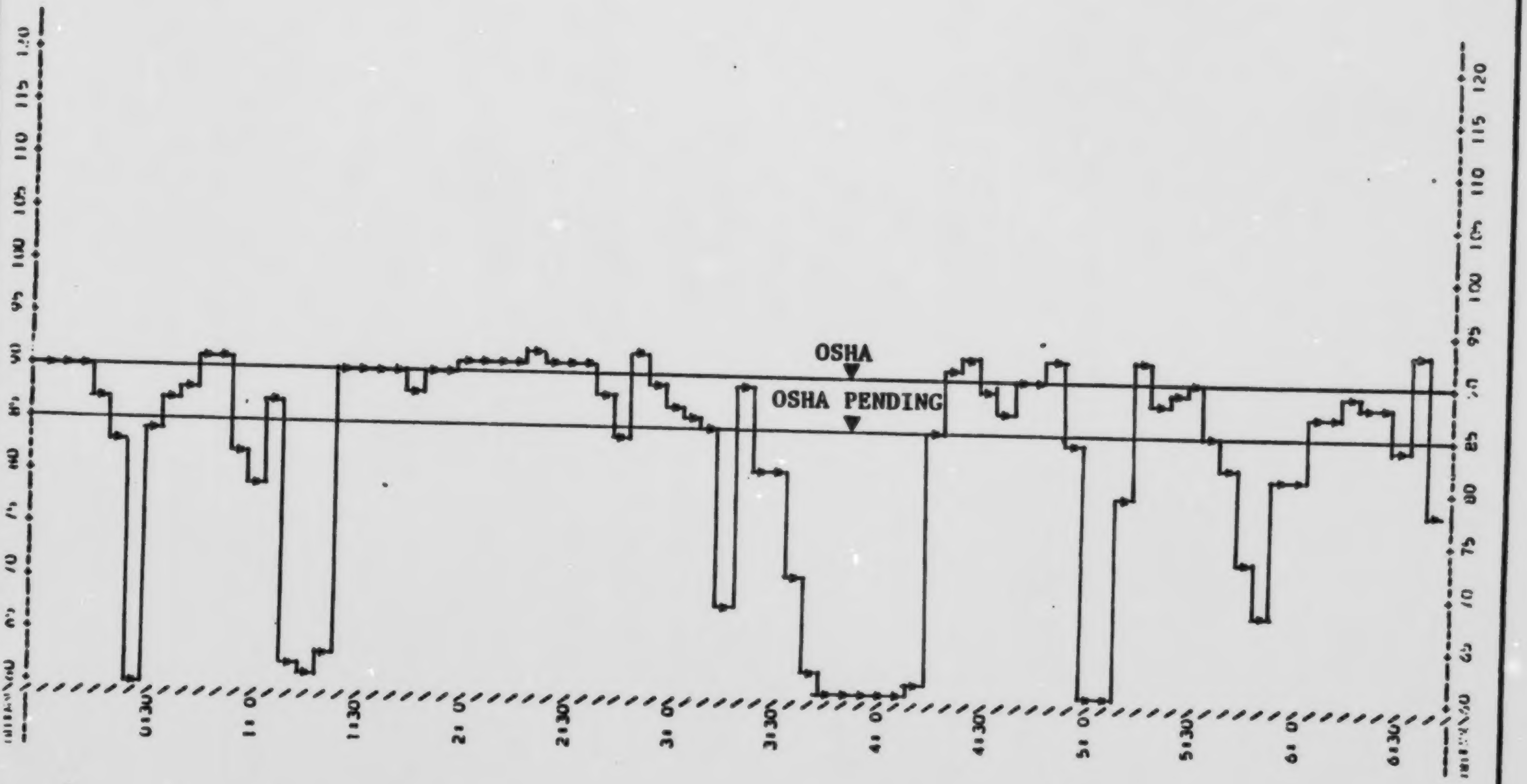


Number of computations - 402

⑦

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



Mechanic ⑧

```
ENTER LOG DATE (DD/MM/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0168
 ENTER JOB CODE (3 CHARS) : 018
  1  26  85  1216   60   64    4    1
     927    115200  480
   63  77  78  60  60  82  77  80  60  60  60  60  60  60  60  60
   60  61  83  87  71  62  60  80  88  88  60  61  70  69  60  71
   62  68  65  69  69  60  60  66  61  60  66  63  65  60  60  68
   74  67  64  64  60  85  60  60  60  62  60  60  60  60  64  60
   66  81  75  71  70  66  72  67  69  72  62  74  60  69  72  61
   61  63  60  63  62  62  63  68  60  65  60  60  64  60  67  72
   67  70  60  60  66  60  66  66  62  60  63  68  75  68  69  71
   69  66  66  70  68  60  65  68  69  72  60  72  60  60  60  60
   60  80  82  84  68  60  60  67  60  60  60  60  73  66  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  69  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  61  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  63  68  60  60  60  60  60  60  60  78  61  63  64  67  80
   61  65  62  60  60  72  60  68  60  60  64  76  63  60  60  61
%EOF
```

```
   DATA LOGGED : 7 JUNE 1979          DATA ANALYZED : 17  AUG 1979
        LOGGER : DB-301/26                SITE CODE : GRIND
 SERIAL NUMBER : 1216                      JOB CODE : 018
      BASELINE : 60 DB                    USER CODE : 0168
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =   6: 0: 0             STANDBY TIME =   0: 3:51

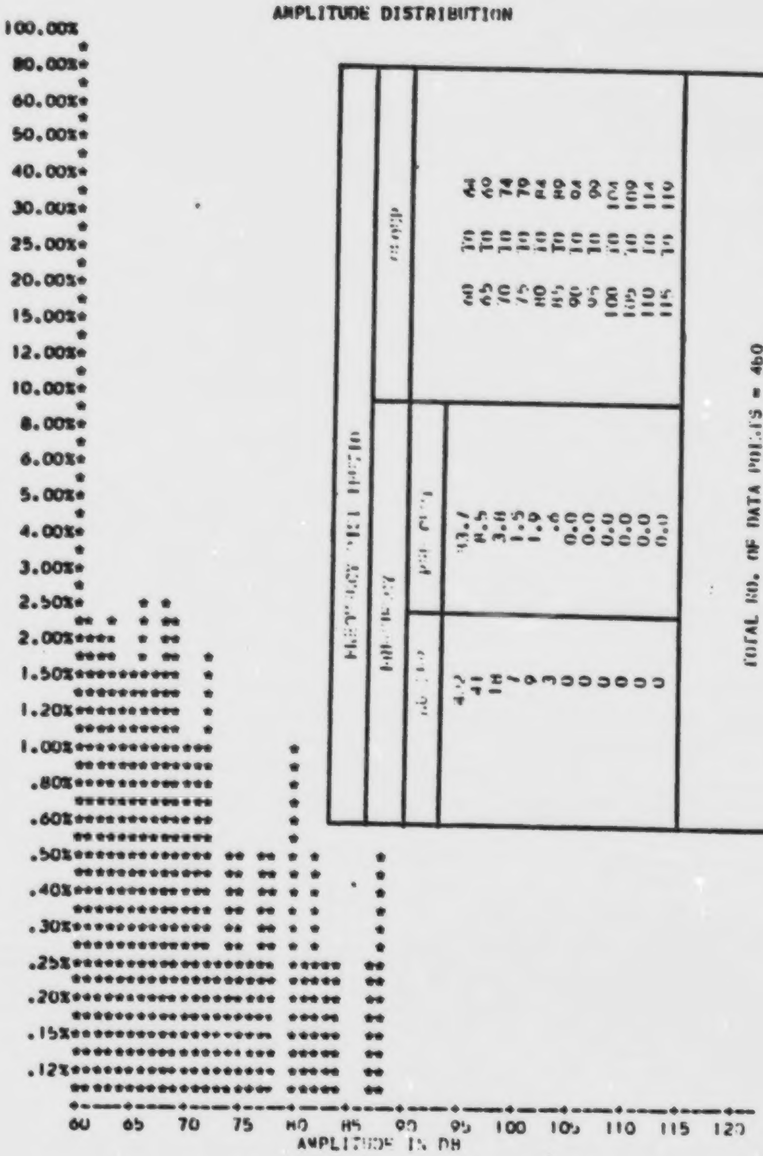
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480 .
PERIOD =  1 MINUTES

TIME           LOSHA                     %DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1      72.5       72.5          1.102      1.10
   2      67.6       70.4           .559      1.66
   3      66.3       69.3           .466      2.13
   4      60.0       67.9           .195      2.32
   5      60.3       66.9           .203      2.53
   6      60.0       66.1           .195      2.72
   7      60.0       65.5           .195      2.92
   8      64.3       65.3           .355      3.27
MIN. COMP. =  60 DB              MAX. COMP. =  88 DB
ARITHMETIC MEAN =  62 DB
STD. DEVIATION =    5 DB
VARIANCE = 25 DB
```

⑧

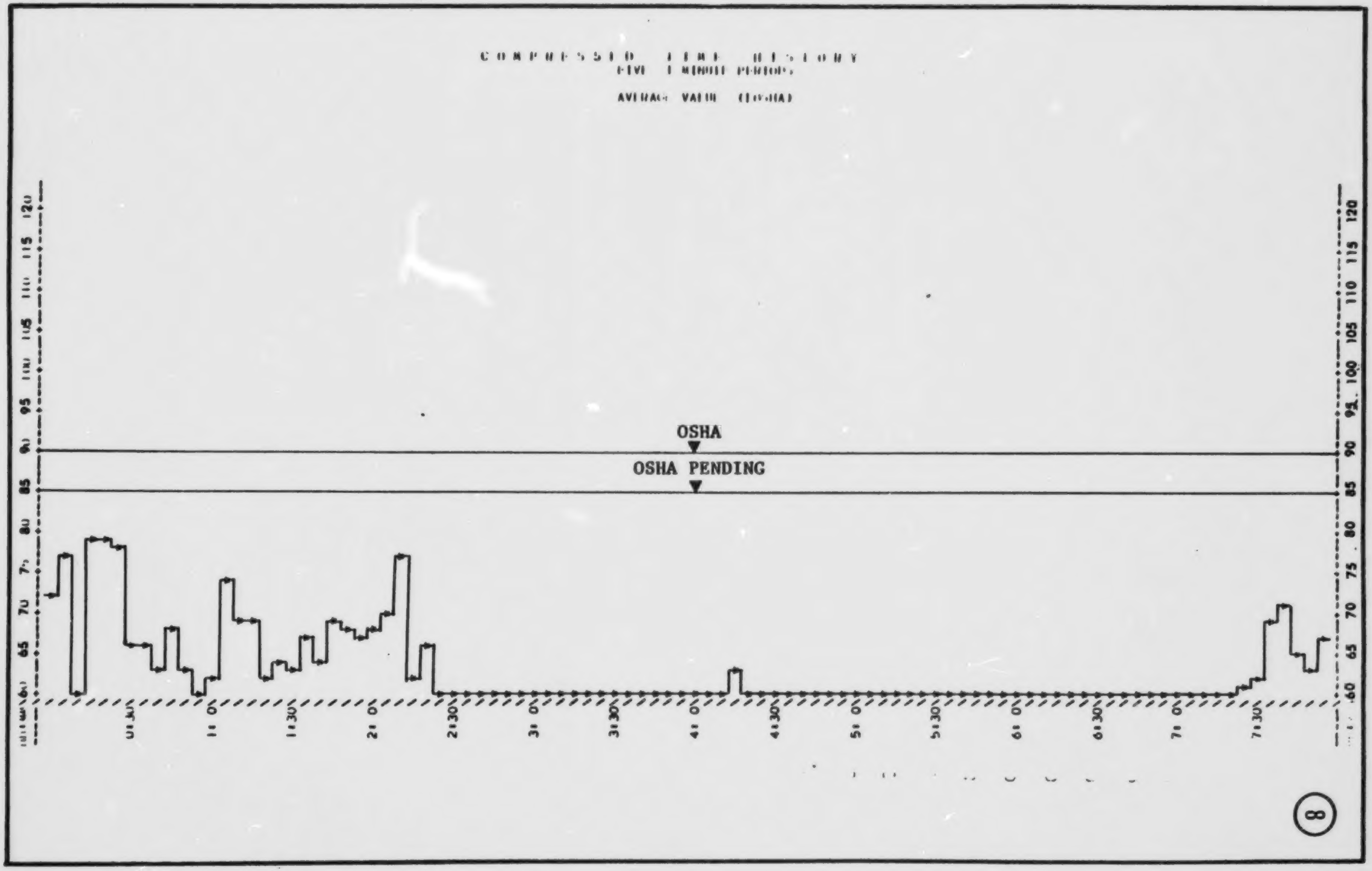
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NO. [illegible]	PER CENT	
402	83.7	60 TO 64
41	8.5	65 TO 69
18	3.8	70 TO 74
7	1.5	75 TO 79
9	1.9	80 TO 84
3	.6	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30
8

⑨

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 07/06/79

ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : 2893
 ENTER JOB CODE (3 CHARS) : 011
  1  26  85  1222    60    64     4     1
   10414      103395  430
  73  60  60  62  60  61  61  69  63  63  60  60  65  67  77  72
  83  83  87  63  65  70  79  86  79  78  74  60  73  79  85  87
  87  87  86  85  81  83  82  79  79  69  66  73  70  80  87  81
  80  71  70  80  72  76  83  74  75  72  73  80  78  81  84  73
  81  67  72  80  80  80  75  77  75  66  63  72  67  68  65  72
  86  87  86  80  82  82  71  79  81  80  83  87  70  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  72  74  60  60  60  60  60  69  60  60  63  66  60  60
  60  60  60  68  64  76  64  60  88  86  78  61  60  60  61  61
  60  60  60  60  64  60  60  60  60  63  62  60  60  60  60  60
  60  60  66  78  76  70  70  76  75  76  77  77  72  80  74  75
  67  65  78  79  74  74  79  73  74  82  73  81  83  77  75  75
  69  60  74  82  80  77  72  74  70  77  79  81  82  84  84  78
  82  80  81  76  76  81  86  83  85  84  81  84  78  75  77  67
  78  83  81  78  84  82  79  83  90  83  85  90  89  89  86  86
  86  92  92  91  91  92  91  87  89  86  85  89  92  95  97  95
  88  84  87  90  90  60  60  61  60  64  60  68  60  65  73  60
  88  60  60  60  60  60  60  60  60  60  60  60  65  60  60  63
  63  60  60  60  60  61  60  61  61  61  82  84  88  88  84  86
  76  87  89  92  87  88  88  87  98  97  93  79  80  88  93  86
  88  88  84  76  77  91  94  89  84  90  90  79  87  87  80  86
  85  91  93  86  84  83  82  77  84  85  84  82  84  79  83  87
  87  87  85  85  97  96  92  90  88  90  92  91  89  85  79  69
  72  74  75  74  78  79  82  77  80  81  81  78  79  83  82  87
 105 103 101  88  88  82  73  79  75  75  78  73  73  90  86  77
  88  92  88  92  92  90  94  91  86  82  80  82  87  88  88  88
  87  88  88  88  88  89  88  88  88  88  89  88  93  82  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED : 7 JUNE 1979              DATA ANALYZED : 17  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : GRIND
  SERIAL NUMBER : 1222                          JOB CODE : 011
       BASELINE : 60 DB                        USER CODE : 2893
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  103395
  TEST DURATION =    7:10:48                STANDBY TIME =    1: 8:23

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 430
 PERIOD =  1 MINUTES

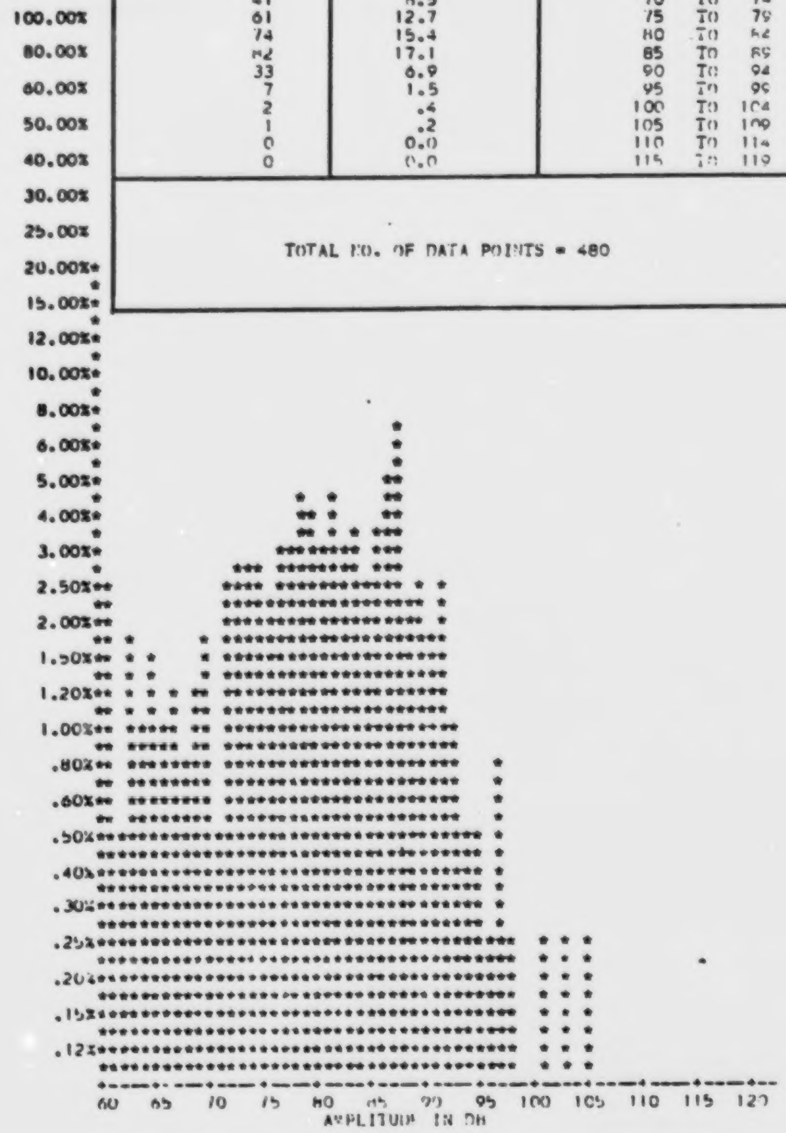
 TIME           LOSHA                        %DOSE
 HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       78.5       78.5             2.532       2.53
    2       75.6       77.2             1.699       4.23
    3       71.6       75.8              .976       5.21
    4       81.4       77.6             3.777       8.98
    5       83.8       79.4             5.319      14.30
    6       88.4       81.9             9.953      24.26
    7       88.6       83.3            10.353      34.61
    8       88.5       83.5             1.695      36.30
 MIN. COMP. =  60 DB                  MAX. COMP. = 105 DB
 ARITHMETIC MEAN =  76 DB
 STD. DEVIATION =  11 DB
 VARIANCE =121 DB
```

Amplitude Distribution

⑨

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUPS
NUMBER	PER CENT	
156	32.5	60 TO 64
23	4.8	65 TO 69
41	8.5	70 TO 74
61	12.7	75 TO 79
74	15.4	80 TO 84
82	17.1	85 TO 89
33	6.9	90 TO 94
7	1.5	95 TO 99
2	.4	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

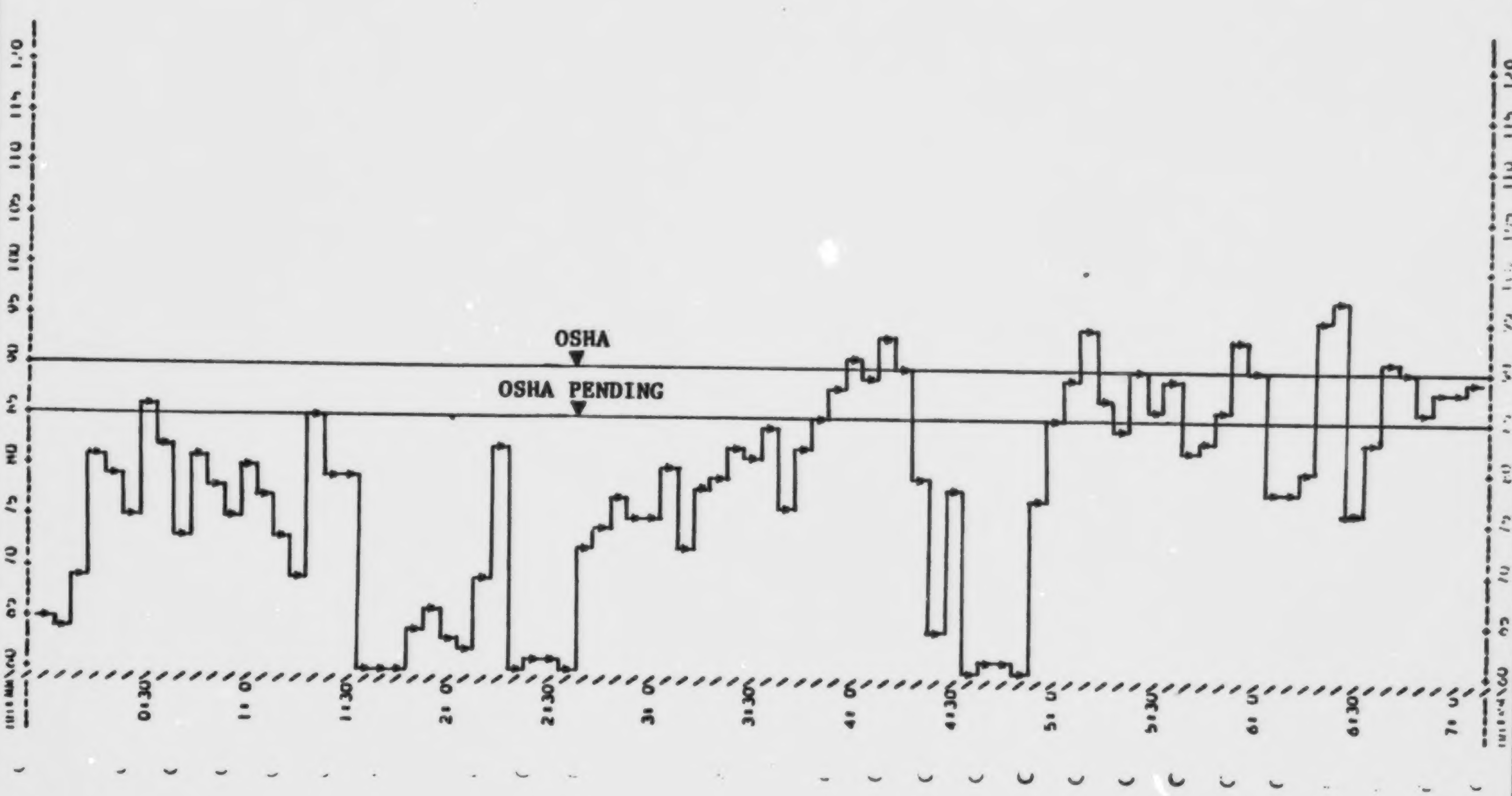


Number of computations = 430

⑨

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Mechanic ⑩

```
ENTER LOG DATE (MD/MM/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : 0517

 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1224   60   64    4    1
   28978     105229  438
  77  70  60  60  60  60  60  60  60  60  62  71  78  84  75  61
  71  76  74  64  85  86  83  89  95  96  96  93  96  96  96  96
  92  91  92  92  93  92  91  88  91  94  91  92  92  91  91  94
  94  94  93  93  94  93  92  92  92  91  83  85  93  92  91  92
  93  92  93  92  92  92  94  92  91  90  92  93  94  92  81  60
  64  67  77  85  80  83  80  82  85  75  79  79  80  85  90  90
  63  70  60  67  60  60  68  68  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  63  60  60
  60  60  60  60  60  60  72  71  71  80  82  83  85  66  87  80
  60  60  63  60  60  60  60  60  60  61  60  60  67  64  60  78
  89  82  78  60  76  76  61  64  66  76  82  80  74  80  80  82
  67  60  77  69  73  64  71  81  74  76  83  81  83  65  77  79
  76  75  75  68  79  80  79  84  81  74  73  74  77  82  81  82
  84  86  81  83  85  85  78  82  88  91  89  90  90  89  90  89
  89  81  88  89  90  89  89  89  79  64  80  60  72  69  62  80
  78  84  82  82  86  84  88  86  87  86  82  88  85  71  89  86
  74  87  88  87  87  88  89  61  62  60  60  60  60  60  60  60
  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  88  88  76  61  61
  66  80  82  88  74  60  60  60  60  60  60  60  61  60  61  60
  60  60  86  85  73  60  76  76  73  73  75  80  79  79  82  88
  83  76  82  82  85  82  81  77  77  77  73  81  80  74  79  81
  71  73  79  76  82  82  80  81  77  77  76  76  79  85  79  81
  85  80  74  61  76  80  80  75  71  79  84  70  82  83  85  77
  80  82  82  78  75  76  83  79  69  67  87  68  88  89  88  80
  85  73  61  68  69  79  66  80  72  87  87  82  74  83  88  88
  90  89  89  89  89  89  89  89  89  88  89  89  89  92  88  90
  87  87  88  86  63  69  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED : 7 JUNE 1979            DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : GRIND
 SERIAL NUMBER : 1224                        JOB CODE : 001
      BASELINE : 60 DB                      USER CODE : 0517
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  105229
 TEST DURATION =   7:18:27               STANDBY TIME =   2: 0:44

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 438
 PERIOD =  1 MINUTES

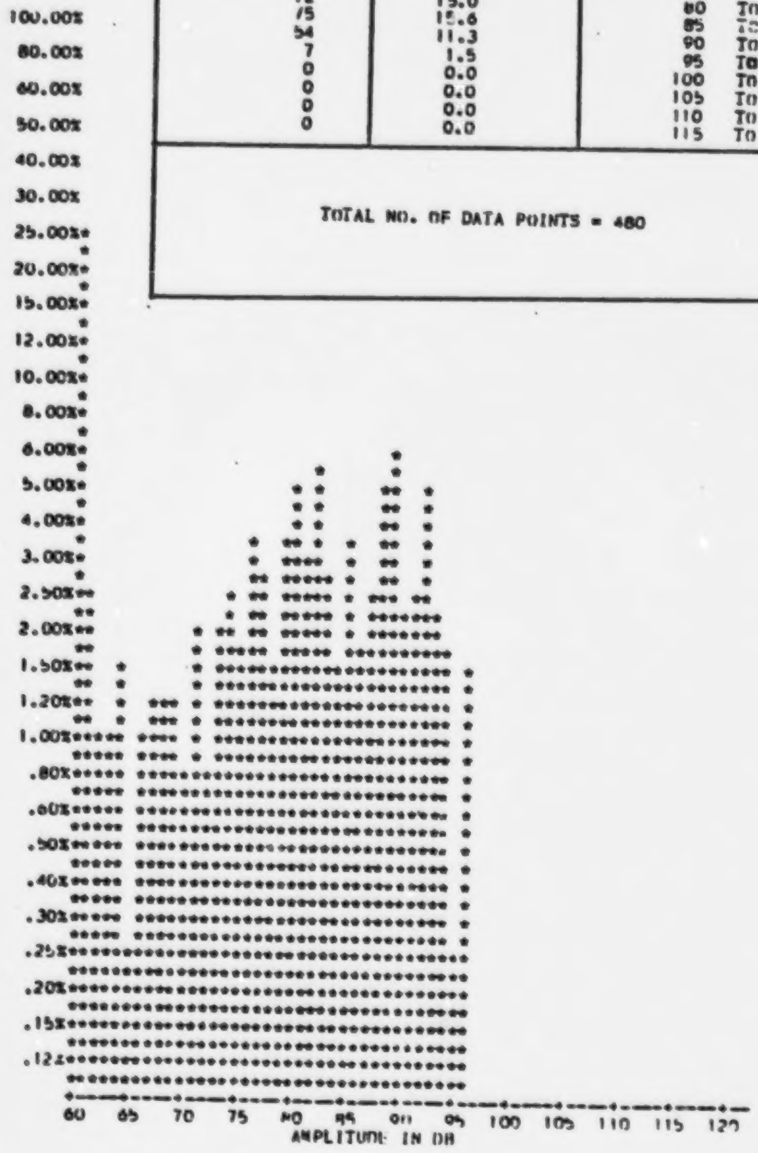
 TIME           LOSHA                        %DOSE
 HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       89.7       89.7            11.981      11.98
    2       85.3       87.8             6.519      18.50
    3       74.5       85.5             1.467      19.97
    4       83.2       85.0             4.895      24.86
    5       79.5       84.1             2.907      27.77
    6       78.4       83.5             2.490      30.26
    7       81.9       83.3             4.086      34.35
    8       67.9       83.5             2.819      37.16
 MIN. COMP. =  60 DB                  MAX. COMP. =  96 DB
 ARITHMETIC MEAN =  76 DB
 STD. DEVIATION =  12 DB
 VARIANCE =144 DB
```

⑩

Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
166	34.6	60 TO 64
20	4.2	65 TO 69
32	6.7	70 TO 74
54	11.3	75 TO 79
72	15.0	80 TO 84
75	15.6	85 TO 89
54	11.3	90 TO 94
7	1.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

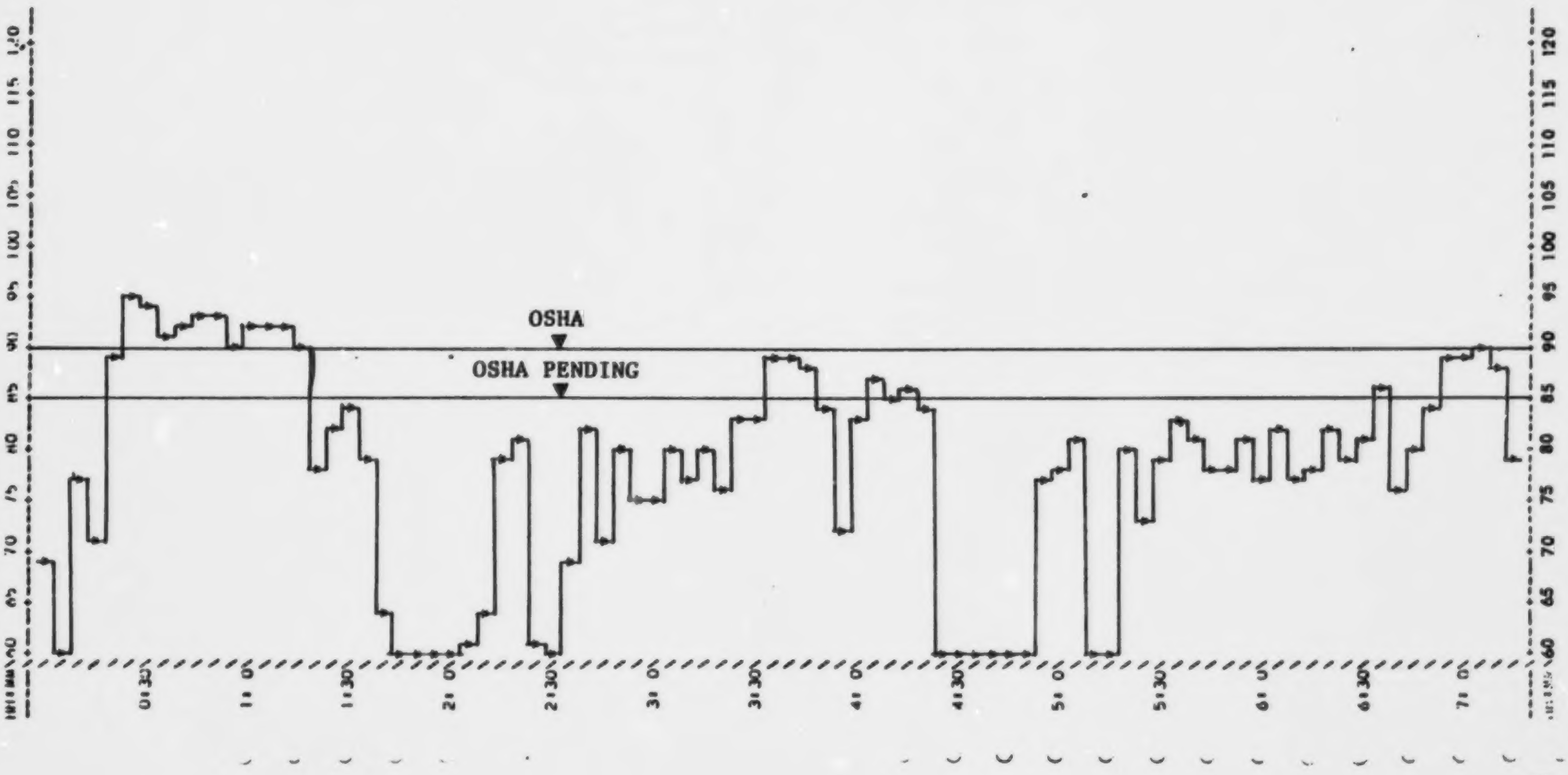
TOTAL NO. OF DATA POINTS = 480



Number of computations = 438

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



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⑪

Mechanic

```
ENTER TODAY'S DATE (MM/DD/YY) : [illegible]
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0900
 ENTER JOB CODE (3 CHARS) : 018

   1  26  85  1226   60   64    4    1
   35972      99191  413
   70  85  93  97  95  93  94  94  93  93  93  93  93  93  93  92
   92  92  94  93  93  93  93  93  93  94  92  92  92  94  93  93
   93  93  92  97  95  94  93  94  93  93  91  94  92  93  98  96
   96  98  92  93  94  83  80  78  86  81  83  82  79  78  76  81
   73  77  87  93  84  60  60  60  60  60  74  60  85  83  81  79
   72  74  75  71  71  66  71  76  69  77  86  66  63  69  62  60
   60  63  68  60  63  62  61  60  74  80  77  84  91  77  76  83
   84  84  62  89  81  69  69  73  73  65  70  64  72  61  60  60
   60  74  60  62  81  90  86  87  83  78  70  61  76  78  82  85
   78  74  60  62  87  77  60  79  63  67  71  66  79  69  80  87
   87  86  70  76  78  61  66  81  74  75  86  82  79  81  79  73
   88  92  86  83  81  82  86  84  84  84  84  80  82  85  85  84
   88  82  81  76  74  76  80  77  82  85  83  80  84  80  70  81
   72  80  75  60  81  75  84  83  82  86  84  86  89  87  86  82
   89  86  71  90  87  74  85  87  78  76  66  82  64  74  81  60
   60  60  77  66  60  60  60  65  62  60  60  60  60  60  63  63
   61  60  60  64  81  60  60  71  74  60  60  60  60  60  60  60
   79  76  69  67  60  70  82  65  76  81  74  80  63  65  64  75
   77  78  81  75  77  69  80  77  71  75  60  78  77  75  80  77
   78  81  78  78  82  87  78  86  83  82  78  78  81  85  85  82
   86  85  82  84  84  81  84  84  83  89  86  84  86  86  85  85
   85  84  87  82  84  88  85  80  68  84  88  87  81  77  77  84
   76  87  89  89  82  76  73  76  84  81  76  65  64  73  74  69
   71  70  69  80  77  88  75  72  82  81  83  78  84  83  89  87
   60  86  86  82  65  82  90  90  90  92  91  90  89  89  88  90
   89  90  97  95  89  74  72  70  80  91  69  71  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



    DATA LOGGED : 7 JUNE 1979               DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                     SITE CODE : GRIND
  SERIAL NUMBER : 1226                           JOB CODE : 018
       BASELINE : 60 DB                         USER CODE : 0900
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =   99191
  TEST DURATION =   6:53:17                  STANDBY TIME =   2:29:53

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS.
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 413
PERIOD =  1 MINUTES

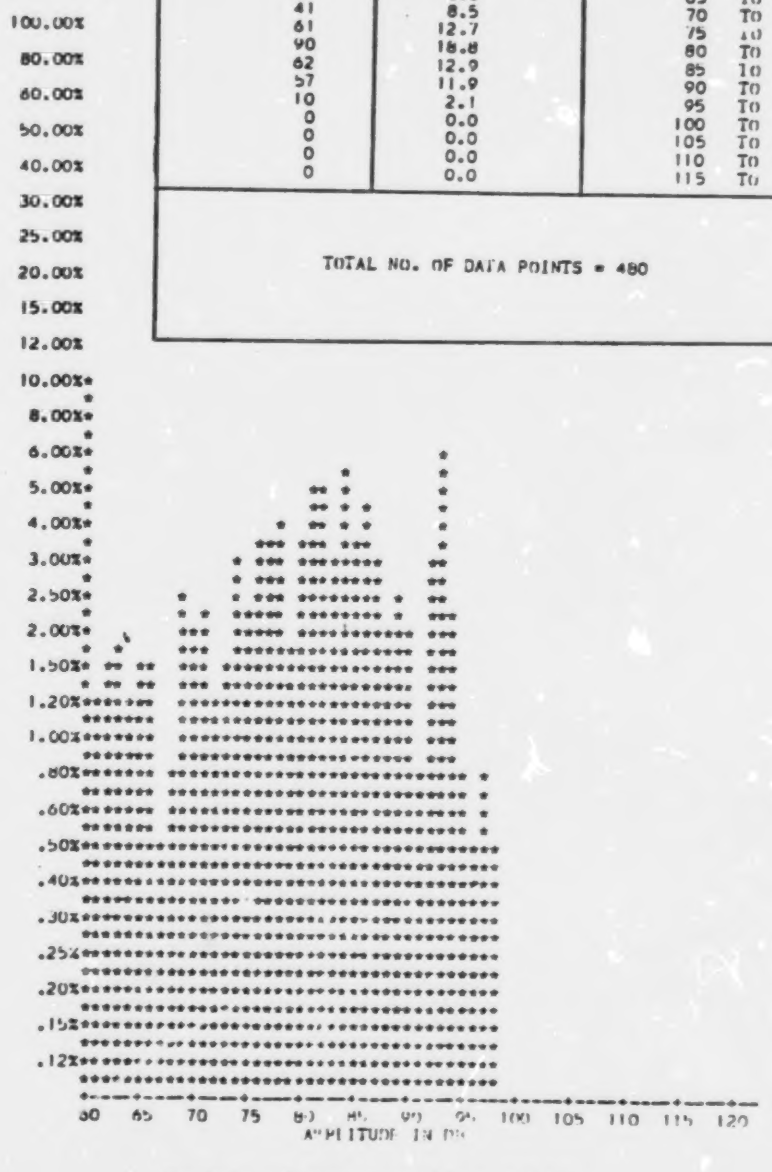

TIME          LOSHA                     %DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
   1      92.8      92.8         18.360      18.36
   2      78.5      88.7          2.539      20.90
   3      79.6      86.8          3.034      23.93
   4      82.6      85.9          4.467      28.40
   5      71.8      84.6          1.008      29.41
   6      83.4      84.4          4.987      34.40
   7      85.2      84.5          5.660      40.06
MIN. COMP. =  60 DB                MAX. COMP. =  98 DB
ARITHMETIC MEAN =  78 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

Amplitude Distribution

⑪

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
132	27.5	60 TO 64
27	5.6	65 TO 69
41	8.5	70 TO 74
61	12.7	75 TO 79
90	18.8	80 TO 84
62	12.9	85 TO 89
57	11.9	90 TO 94
10	2.1	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

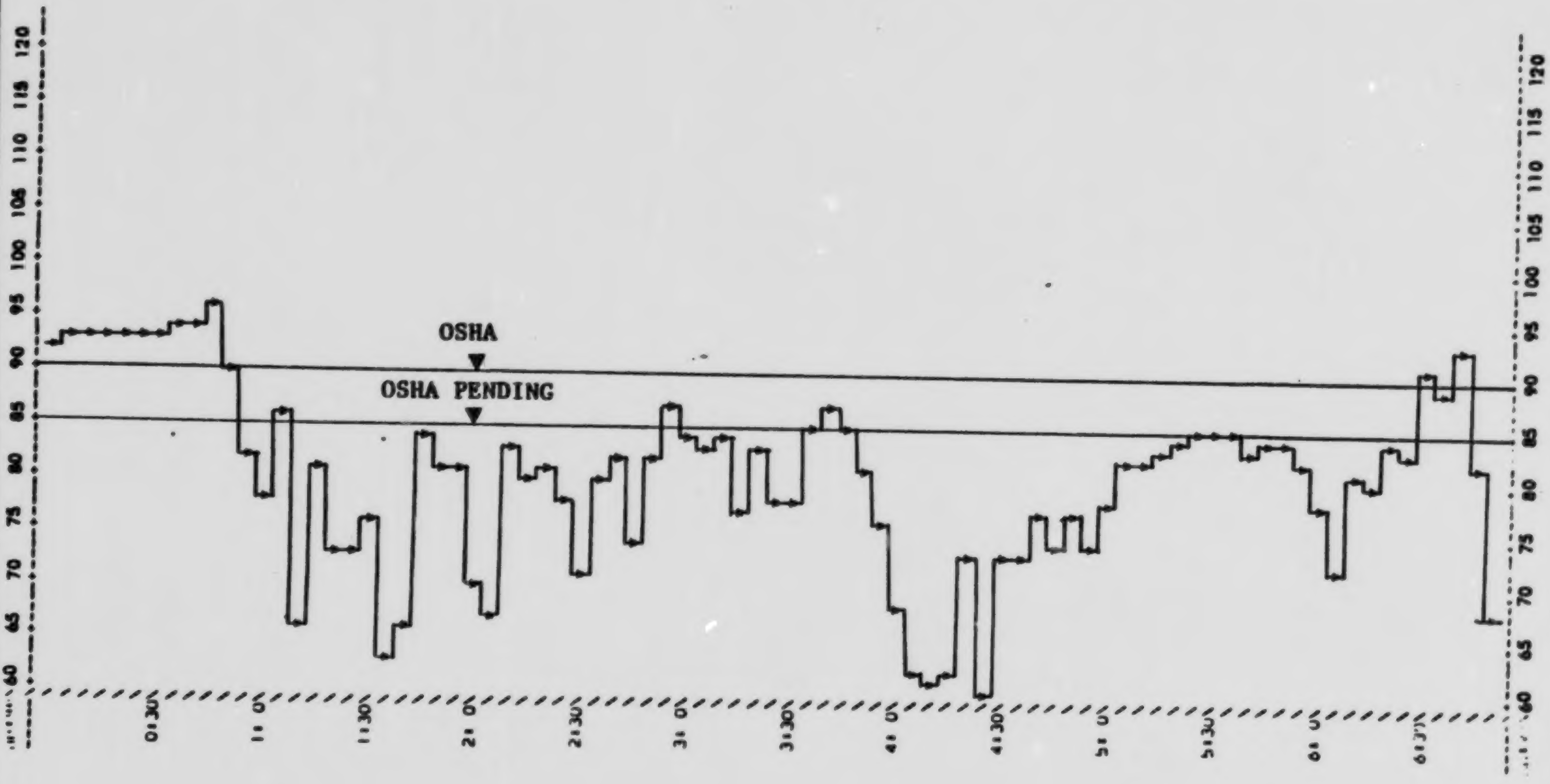


Number of computations = 413

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)

⑪



Mechanic ⑫

```
ENTER LOG DATE (MM/DD/YY) : 07/06/79

ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0179
 ENTER JOB CODE (3 CHARS) : 018
  1  26  85  1218   60   64    4    1
   35454     106424  451
  67  60  60  60  82  60  60  60  60  60  60  60  60  60  60  60
  86  83  62  60  66  85  77  83  82  86  65  60  68  74  88  66
  66  74  60  64  72  84  84  85  82  82  81  77  79  79  77  77
  63  60  60  65  70  83  79  81  65  65  77  61  78  77  73  84
  66  64  75  73  77  82  72  75  69  63  77  76  80  68  70  60
  60  60  68  75  60  60  60  60  68  60  60  73  63  62  72  74
  76  69  82  82  86  86  84  78  69  76  68  61  75  60  61  60
  78  79  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  76  65  74  74  63  73
  80  80  76  69  69  60  75  75  68  76  85  77  77  74  78  81
  81  80  80  85  82  82  77  77  73  78  75  73  77  78  77  82
  76  70  80  74  76  73  79  76  72  69  79  73  72  74  78  75
  78  74  79  83  78  74  74  75  73  75  82  79  77  74  72  73
  68  74  80  84  84  82  79  83  83  83  83  76  82  84  85  86
  85  82  81  79  76  82  80  82  83  84  82  79  79  78  73  84
  83  81  89  89  89  82  88  88  86  89  90  91  83  60  62  61
  60  60  60  60  77  63  60  85  82  60  69  66  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  64  60  60  60  60  60  60  60
  60  83  83  73  82  91  89  61  60  60  61  60  60  60  60  60
  60  60  60  60  60  60  60  60  63  64  61  80  75  87  79  79
  66  77  87  89  90  60  66  60  65  60  60  60  63  70  86  93
  90  81  60  61  62  61  60  60  61  63  63  61  60  60  78  76
  83  88  88  87  88  82  88  88  88  88  89  89  87  87  87  87
  87  89  87  86  87  87  87  87  87  84  60  83  87  87  86  90
  74  84  78  69  74  64  71  70  60  64  63  65  63  66  62  66
  90  84  84  89  91  88  87  86  88  88  68  87  87  88  87  88
  88  89  91  92  89  69  73  68  67  61  68  63  63  60  64  64
  67  65  71  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



    DATA LOGGED : 7 JUNE 1979              DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : GRIND
  SERIAL NUMBER : 1218                          JOB CODE : 018
       BASELINE : 60 DB                        USER CODE : 0179
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  106424
  TEST DURATION =    7:31:46                STANDBY TIME =   2:27:43

           TIME HISTORY ANALYSIS

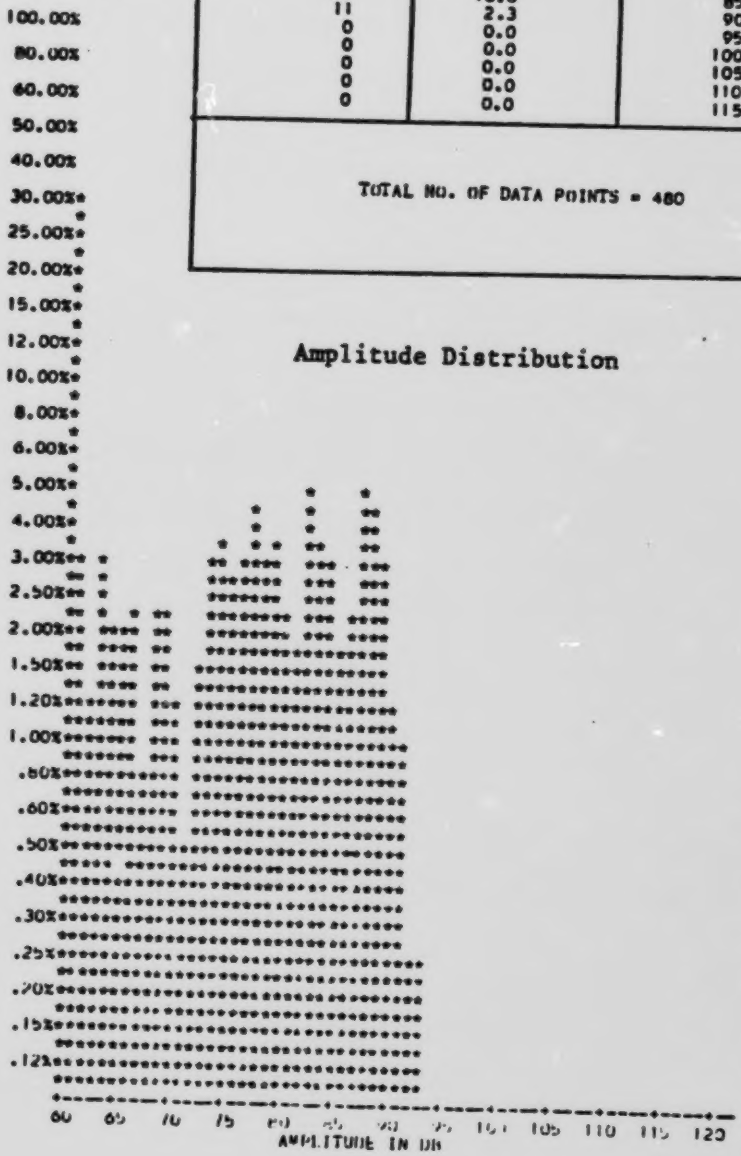
  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 451
  PERIOD =  1 MINUTES


  TIME           LOSHA                        %DOSE
  HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
     1       76.6       76.6            1.949       1.95
     2       74.4       75.6            1.433       3.38
     3       75.1       75.4            1.586       4.97
     4       79.6       76.7            2.960       7.93
     5       77.7       76.9            2.263      10.19
     6       78.1       77.1            2.403      12.59
     7       83.8       78.5            5.271      17.86
     8       84.6       79.2            3.047      20.91
  MIN. COMP. =  60 DB                  MAX. COMP. =  93 DB
  ARITHMETIC MEAN =  72 DB
  STD. DEVIATION =  11 DB
  VARIANCE =121 DB
```

⑫

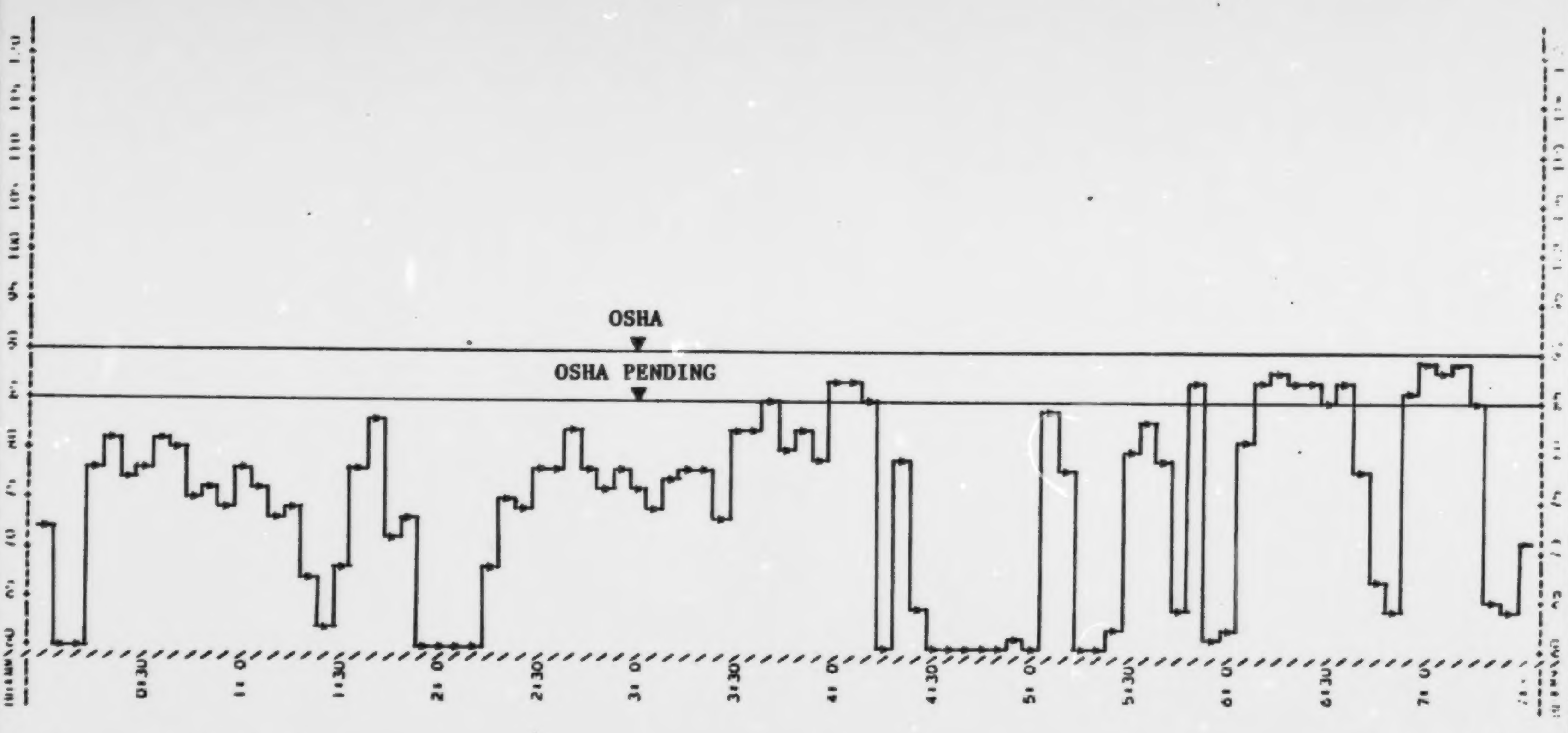
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
193	40.2	60 TO 64
38	7.9	65 TO 69
41	8.5	70 TO 74
66	13.8	75 TO 79
65	13.5	80 TO 84
66	13.8	85 TO 89
11	2.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

Number of computations = 451



COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (DBA)

⑫

⑬

Mechanic

```
ENTER LOG DATE (MM/DD/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0508
 ENTER JOB CODE (3 CHARS) : 001

  1  26  85  1215   60   64    4    1
  14829     115200  480
 72  60  60  61  60  63  60  60  70  65  60  64  62  60  64  60
 86  84  87  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  87  87  88  88  89  89  88  88  88  88
 87  87  87  87  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  85  86  86
 86  86  86  86  86  86  86  87  86  86  86  86  86  86  86  86
 86  86  86  86  87  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  85  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  87  86  86  86  86  86  86  86
 86  86  86  86  87  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  87  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  85  86  85  85  85  85  85  86  86  86  85  87  87
 87  87  87  88  89  60  60  60  62  63  68  60  60  73  66  60
 60  78  91  88  87  87  86  86  87  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 85  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  85
 86  86  86  86  86  86  86  85  85  86  86  86  86  86  85  86
 86  86  86  85  86  86  86  86  86  86  86  85  86  86  86  85
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  85  85
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
 86  86  86  86  86  86  86  86  86  86  86  86  86  86  86  86
%EOF

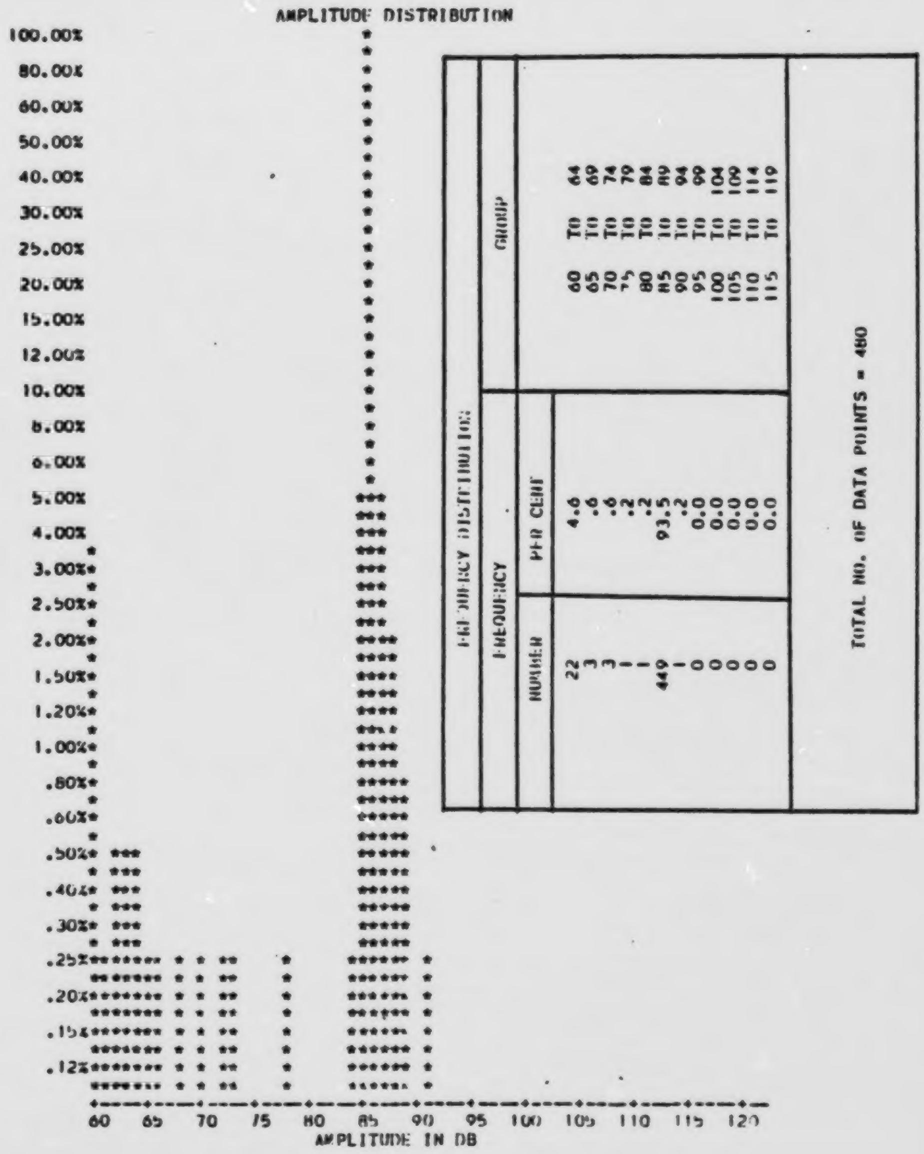

   DATA LOGGED : 7 JUNE 1979                DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : GRIND
 SERIAL NUMBER : 1215                            JOB CODE : 001
      BASELINE : 60 DB                          USER CODE : 0508
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =   1: 1:47

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                            %DOSE
HOUR    CURRENT  CUMULATIVE            CURRENT  CUMULATIVE
  1       84.5      84.5                5.800      5.80
  2       86.0      85.3                7.177     12.98
  3       86.0      85.5                7.184     20.16
  4       86.0      85.7                7.215     27.38
  5       84.8      85.5                6.042     33.42
  6       86.0      85.6                7.163     40.58
  7       85.9      85.6                7.071     47.66
  8       86.0      85.7                7.148     54.80
MIN. COMP. =  60 DB                    MAX. COMP. =  91 DB
ARITHMETIC AV. =  84 DB
STD. DEVIATION =   6 DB
VARIANCE = 36 DB
```

⑬

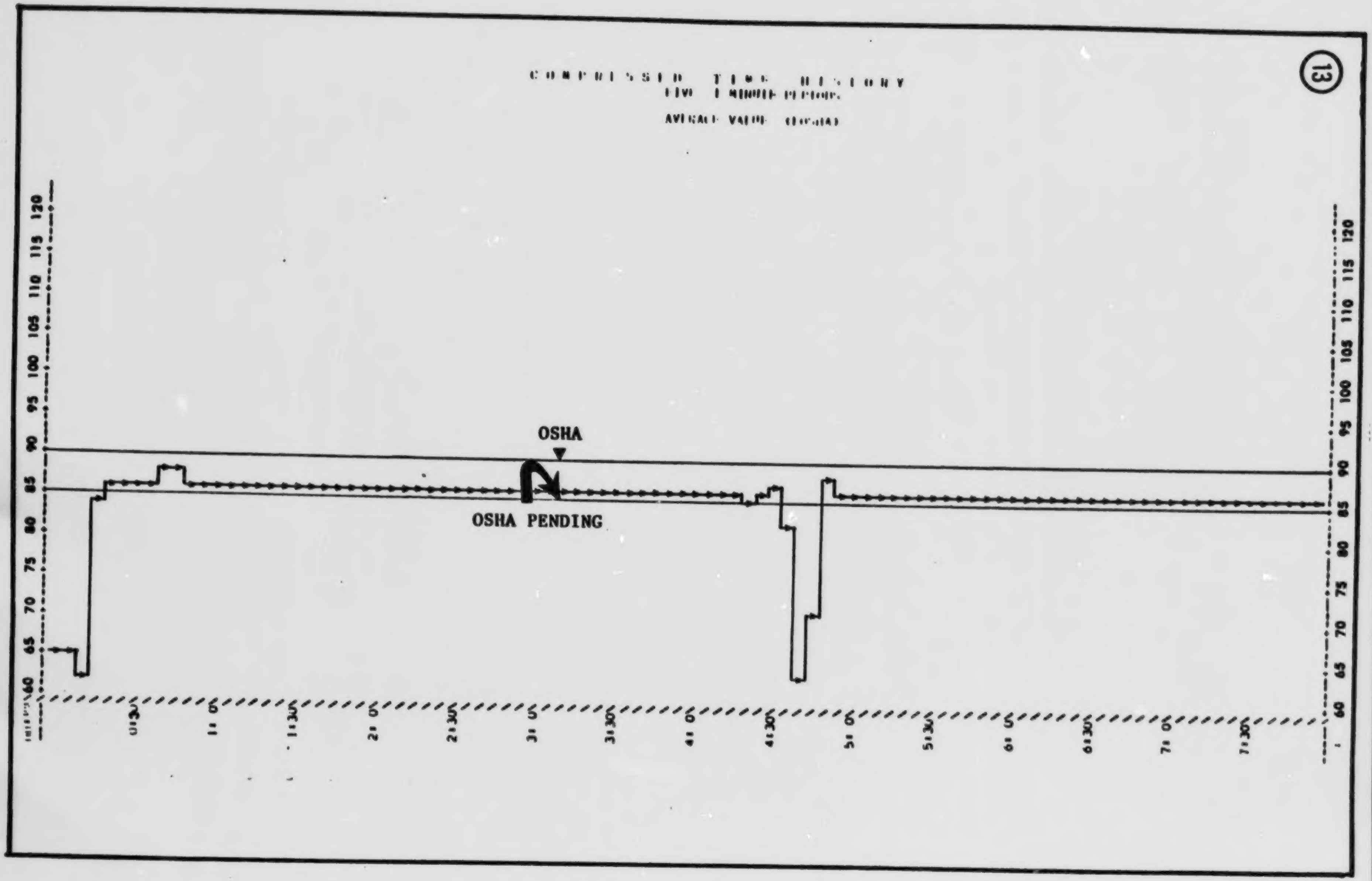


FREQUENCY DISTRIBUTION

GROUP	FREQUENCY NUMBER	FREQUENCY PER CENT
60 TO 64	22	4.6
65 TO 69	3	.6
70 TO 74	3	.6
75 TO 79	1	.2
80 TO 84	1	.2
85 TO 89	449	93.5
90 TO 94	1	.2
95 TO 99	0	0.0
100 TO 104	0	0.0
105 TO 109	0	0.0
110 TO 114	0	0.0
115 TO 119	0	

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (dB(A))

⑭

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 08/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 2893
 ENTER JOB CODE (3 CHARS) : 011
  1  26  85  1214   60   64    4    1
  13207    115200  480
  70  68  66  68  70  80  71  71  76  72  66  84  75  81  85  86
  86  72  60  60  65  61  62  63  61  73  69  71  65  70  75  72
  82  83  67  68  69  68  83  75  80  82  72  76  64  60  60  67
  60  67  75  83  75  73  74  77  78  75  71  81  75  66  83  78
  69  67  66  75  75  66  61  64  74  80  82  70  60  69  63  60
  71  82  85  85  85  68  60  60  60  60  60  72  68  60  63  64
  61  69  73  70  83  91  97  98  95  89  84  87  91  93  80  71
  67  60  60  65  60  60  81  85  88  85  82  82  80  77  79  80
  67  77  80  69  60  62  60  67  65  73  65  81  83  89  76  60
  70  65  75  76  91  85  82  82  60  60  60  84  78  60  78  81
  86  85  84  80  82  86  65  73  86  80  73  73  65  73  67  74
  70  73  75  90  90  60  60  60  62  68  73  64  62  63  63  68
  63  70  63  61  70  65  69  70  74  68  63  66  69  68  60  64
  60  60  66  83  75  68  74  68  74  79  91  86  61  60  60  60
  60  62  66  84  87  93  94  95  95  90  87  75  66  68  76  71
  71  60  71  72  77  75  67  67  68  60  60  60  65  64  74  60
  61  60  60  60  64  60  64  78  79  72  60  60  60  61  81  85
  91  89  79  61  60  60  60  72  70  60  60  61  63  63  60  60
  61  60  60  60  60  61  60  60  60  60  65  66  60  72  87  60
  65  77  77  67  62  65  80  72  87  60  63  69  62  63  69  61
  72  76  88  92  92  92  92  91  95  92  92  92  93  94  93  93
  93  93  93  94  93  91  92  92  92  94  95  94  94  93  94  92
  92  93  94  95  94  94  94  92  92  93  85  60  60  60  82  80
  85  83  72  70  60  60  64  63  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  63  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  68  64  61  70  64  63  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  62  60  61  60  60  60  60  61
%EOF
```

```
   DATA LOGGED : 8 JUNE 1979          DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                SITE CODE : GRIND
 SERIAL NUMBER : 1214                      JOB CODE : 011
      BASELINE : 60 DB                    USER CODE : 2893
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0             STANDBY TIME =   0:55: 1

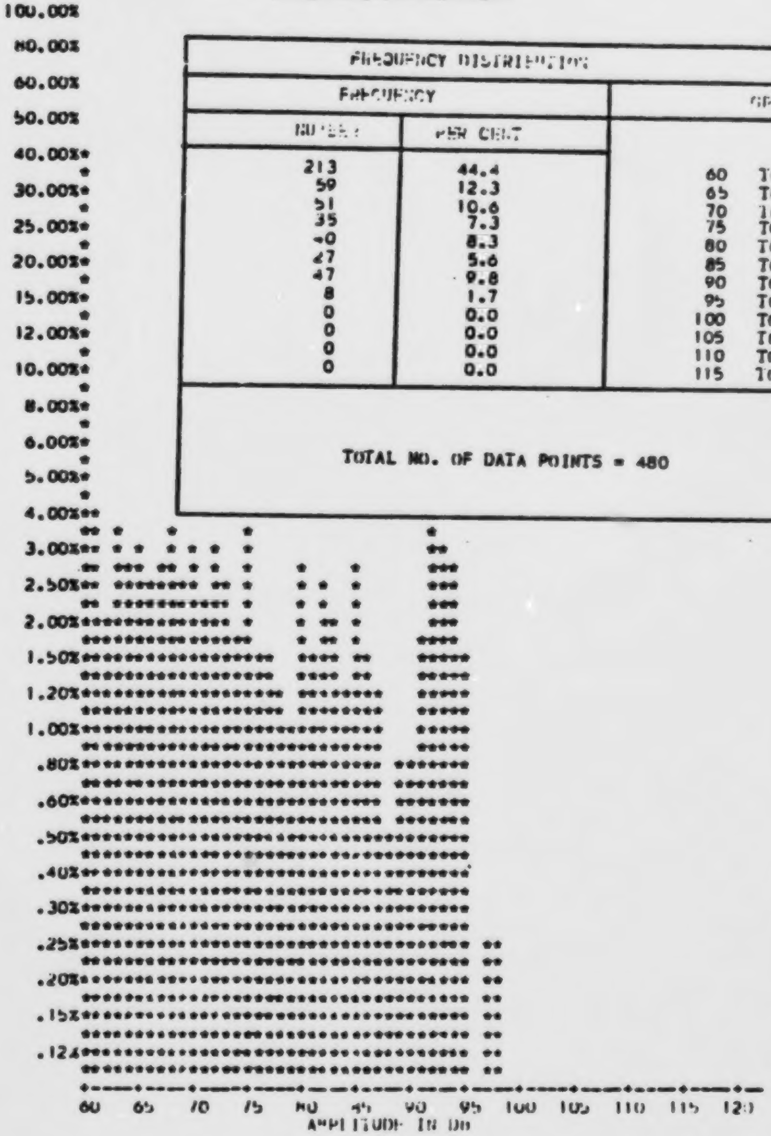
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                    %DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      75.6      75.6          1.706      1.71
   2      81.9      79.4          4.079      5.79
   3      79.7      79.5          3.011      8.80
   4      80.2      79.7          3.218     12.01
   5      72.3      78.7          1.077     13.09
   6      90.0      82.2         12.483     25.57
   7      73.1      81.5          1.201     26.78
   8      60.9      80.6     .     .221     27.00
MIN. COMP. =  60 DB              MAX. COMP. =  98 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑭

AMPLITUDE DISTRIBUTION



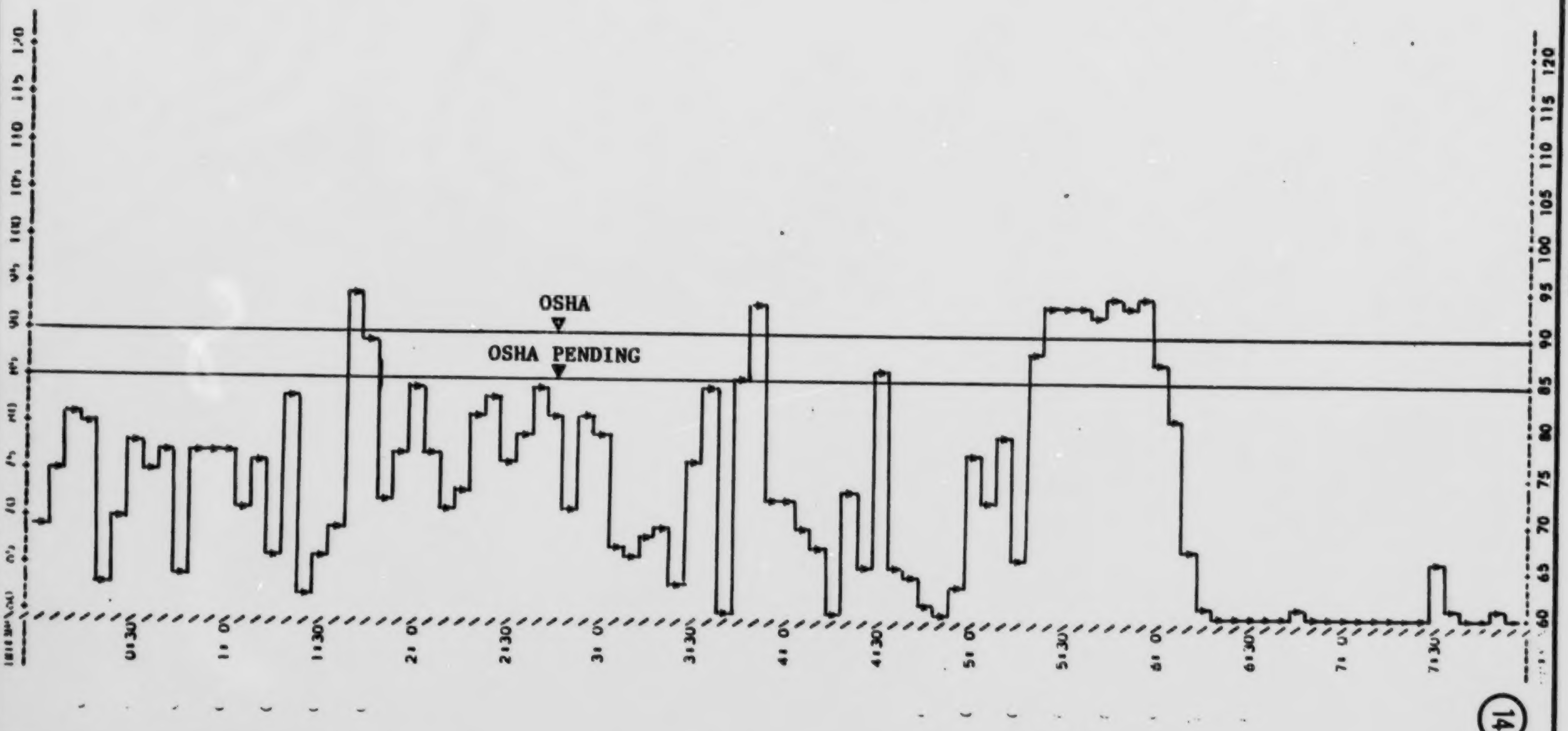
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
213	44.4	60 TO 64
59	12.3	65 TO 69
51	10.6	70 TO 74
35	7.3	75 TO 79
40	8.3	80 TO 84
27	5.6	85 TO 89
47	9.8	90 TO 94
8	1.7	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSOR LINE HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑭

⑮

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 08/06/79

ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0517
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1224   60   64    4    1
   31997      112264   467
   72   60   60   63   60   60   60   60   60   61   60   65   82   62   81   93
   94   93   94   93   94   93   93   90   91   92   93   94   94   94   94   93
   95  102   94   93   94   94   94   95   94   94   95   94   94   94   94   94
   98   93   90   88   90   89   86   84   85   88   84   91   96   96   95   96
   96   96   96   97   96   96   96   96   97   96   96   98   97   95   95   95
   92   89   89   85   62   60   60   60   60   61   60   65   66   61   60   71
   93   97   98   99   98   97   96   95   95   95   95   96   96   95   96   96
   96   95   96   96   96   96   96   98   97   97   93   85   63   60   64   66
   60   60   62   60   61   60   60   60   61   60   60   60   60   60   60   60
   74   84   92   94   96   96   95   96   99   98   96   97   96   97   96   96
   97   96   97   97   98   97   96   96   96   96   97   96   97   96   96   96
   97   96   96   96   96   95   93   89   64   88   89   65   60   61   88   91
   91   85   64   81   88   88   88   88   86   86   86   87   91   95   94   95
   96   95   96   96   95   96   96   97   97   96   97   97   97   97   96   96
   95   99   97   96   96   95   94   95   95   97   96   98   94   96   94   94
   94   96   95   96   96   96   98   98   95   97   97   96   96   95   95   94
   88   60   89   87   80   60   60   60   60   60   60   60   60   60   60   60
   62   60   60   60   60   60   60   60   60   60   65   60   60   60   60   60
   60   60   60   60   60   60   60   80   60   60   60   72   79   93   96   95
   95   95   96   96   95   90   91   87   60   88   61   66   60   60   60   60
   65   86   93   90   66   62   72   90   93   93   95   96   97   97   96   97
   99   99   94   95   94   94   94   94   95   94   94   94   94   94   96   94
   95   96   95   95   95   95   95   95   95   95   95   95   94   94   94   94
   95   94   93   94   94   94   94   94   95   95   94   93   94   95   94   94
   95   95   96   95   94   95   94   94   95   95   92   88   90   87   86   88
   90   95   92   91   95   94   94   94   95   95   94   94   96   95   94   99
  102  100   95   94   95   95   95   95   92   90   93   93   94   97   97   98
   94   94   96   96   95   96   93   95   94   96   95   89   61   86   86   79
   68   60   60   60   61   69   67   61   66   76   60   67   70   60   63   69
   69   67   65   60   60   60   60   60   60   60   60   60   60   60   60   60
*EOF




     DATA LOGGED : 8 JUNE 1979              DATA ANALYZED : 20  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : GRIND
   SERIAL NUMBER : 1224                          JOB CODE : 001
        BASELINE : 60 DB                        USER CODE : 0517
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  112264
   TEST DURATION =    7:47:46                STANDBY TIME =   2:13:19

          TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 85 DB
     NUMBER OF COMPUTATIONS = 467
   PERIOD =  1 MINUTES

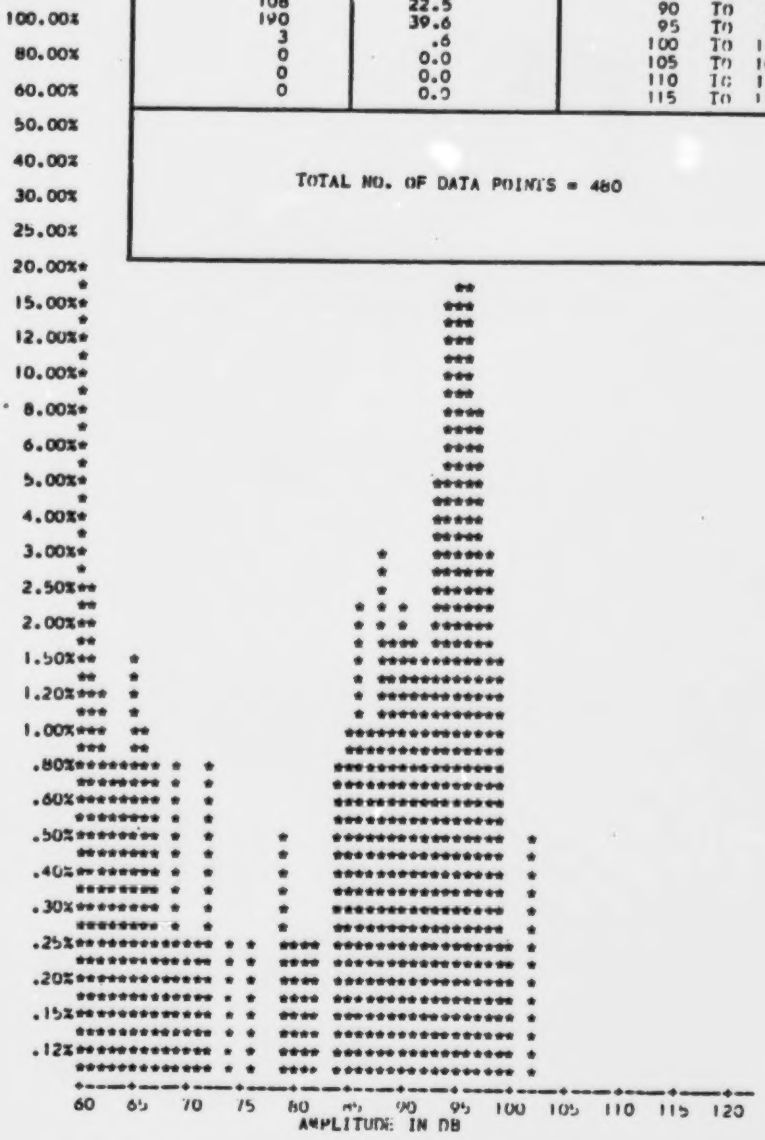
   TIME          LOSHA                         %DOSE
   HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
      1       91.3       91.3            14.922      14.92
      2       94.2       92.9            22.406      37.33
      3       93.0       92.9            18.946      56.27
      4       93.6       93.1            20.570      76.84
      5       87.0       92.2             8.304      85.15
      6       93.0       92.4            18.925     104.07
      7       94.4       92.7            23.085     127.14
      8       90.2       92.5            10.069     137.21
   MIN. COMP. =  60 DB                 MAX. COMP. = 102 DB
   ARITHMETIC MEAN =  85 DB
   STD. DEVIATION =  14 DB
   VARIANCE =196 DB
```

Amplitude Distribution

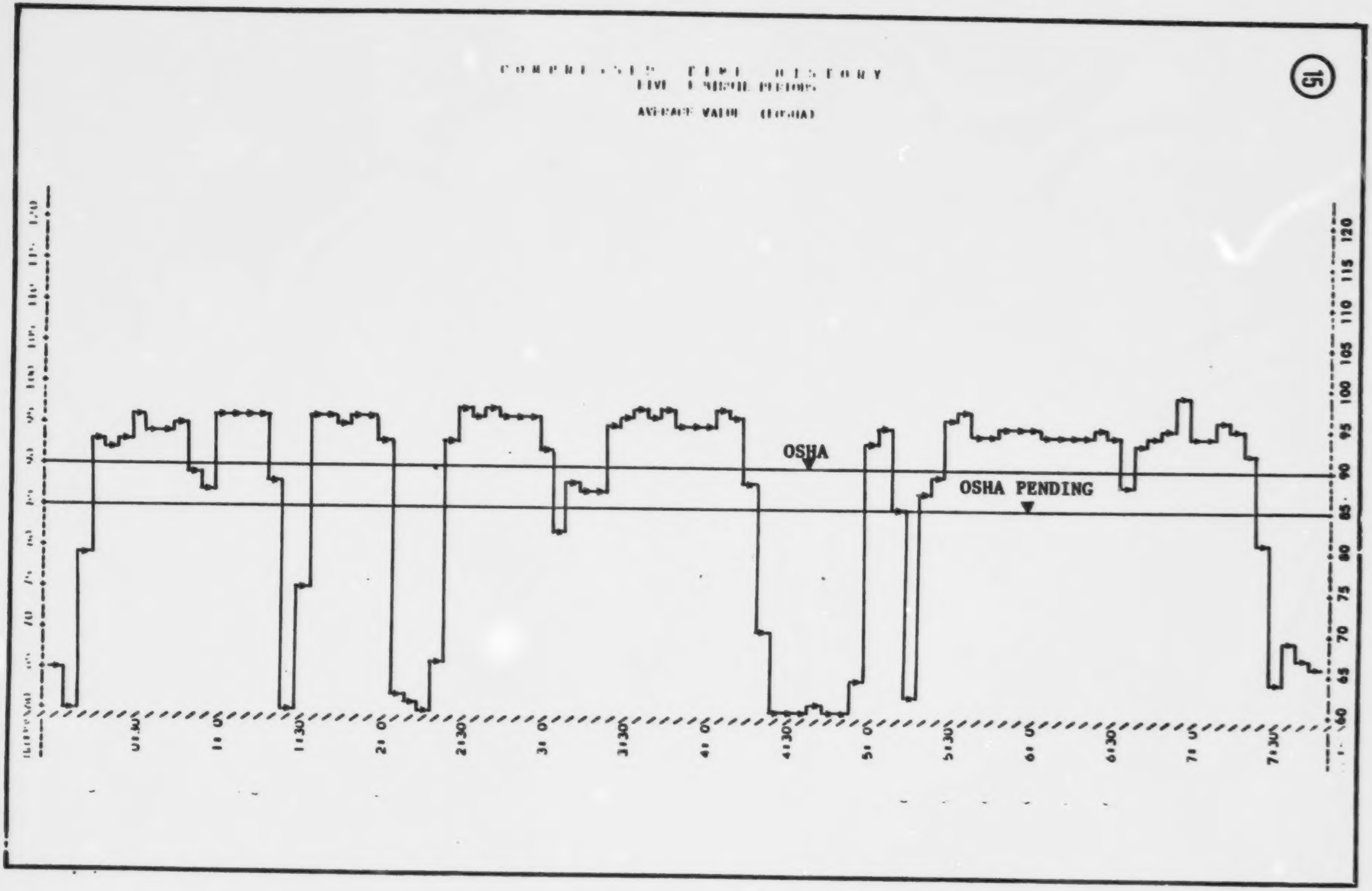
⑮

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
110	22.9	60 TO 64
17	3.5	65 TO 69
6	1.3	70 TO 74
3	.6	75 TO 79
6	1.3	80 TO 84
37	7.7	85 TO 89
108	22.5	90 TO 94
190	39.6	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 467


COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (DBA)
15
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Mechanic ⑯

```
ENTER LOG DATE (MM/DD/YR) : 06/08/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0168
 ENTER JOB CODE (3 CHARS) : 018
  1  26  85  1213   60   64    4    1
   37464      110373  459
  68  60  60  67  74  60  62  65  60  60  73  85  70  78  87  83
  79  94  94  94  94  94  93  93  97  94  95  94  93  94  94  94
  89  69  66  64  63  64  60  62  62  60  70  63  61  64  73  82
  90  96  94  94  92  92  92  89  84  93  89  60  85  91  95  92
  90  91  90  91  90  93  92  91  91  92  93  92  92  92  92  91
  91  90  90  90  91  90  94  87  87  85  75  60  60  60  62  60
  60  60  60  60  60  60  60  60  60  60  60  63  64  75  61  61
  60  70  60  60  60  63  75  88  89  77  70  66  60  62  60  69
  74  67  61  73  64  67  64  68  60  61  60  60  60  60  64  71
  60  80  91  91  92  91  91  89  90  89  90  90  90  90  91  90
  87  60  70  65  69  60  67  60  64  64  70  66  71  74  77  66
  72  63  87  65  75  64  90  90  90  88  90  92  91  91  92  91
  90  91  91  91  91  91  90  91  91  90  90  90  90  89  91  78
  81  91  91  91  90  90  91  91  90  91  91  91  91  91  91  91
  91  91  91  91  90  90  91  91  91  91  91  90  91  90  91  91
  91  91  91  91  91  91  91  91  91  91  91  91  91  86  62  70
  66  72  60  72  66  80  89  92  92  89  89  90  89  89  89  90
  81  74  62  60  60  60  60  60  63  60  60  67  66  60  60  66
  61  60  60  65  62  60  60  60  60  60  60  64  77  79  92  92
  90  90  90  92  90  90  90  92  88  63  60  60  60  61  60  60
  60  60  60  66  91  91  90  90  90  89  90  90  90  90  90  90
  90  90  90  90  90  93  91  90  90  90  92  93  91  92  87  91
  93  93  83  65  83  90  90  85  86  60  60  60  63  67  61  69
  60  60  64  83  84  89  88  89  89  86  85  87  92  89  89  89
  89  90  89  91  89  93  90  91  90  90  90  91  90  92  88  86
  92  93  92  91  91  90  91  90  91  90  82  91  91  93  80  90
  88  92  91  92  93  92  92  93  93  87  60  60  90  84  83  90
  89  83  84  88  87  87  88  81  86  87  87  86  90  92  80  60
  63  64  60  64  60  66  72  70  66  68  79  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED : 8 JUNE 1979             DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : GRIND
 SERIAL NUMBER : 1213                         JOB CODE : 018
      BASELINE : 60 DB                       USER CODE : 0168
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  110373
 TEST DURATION =   7:39:53                STANDBY TIME =   2:36: 6

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 459
PERIOD =  1 MINUTES

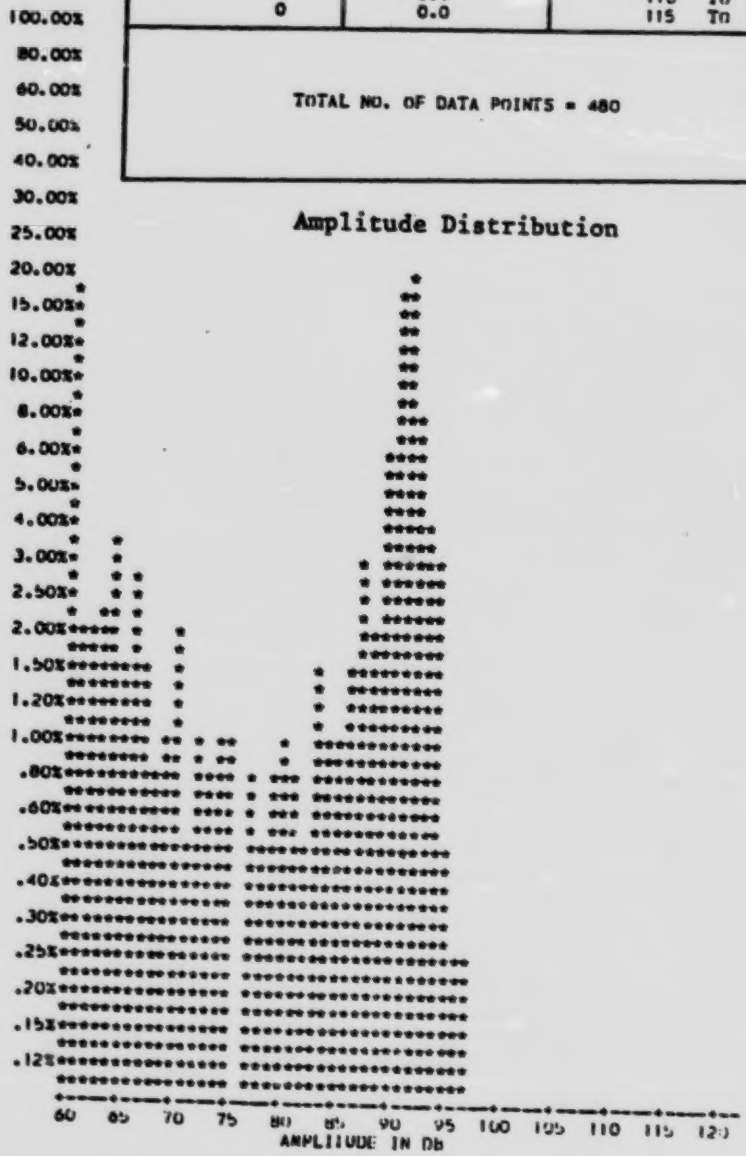
TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      87.9      87.9            9.307      9.31
   2      86.3      87.1            7.529     16.84
   3      81.8      85.8            3.987     20.82
   4      90.2      87.2           12.938     33.76
   5      84.2      86.7            5.598     39.36
   6      88.5      87.0           10.165     49.54
   7      88.5      87.2           10.121     59.66
   8      85.6      87.1            4.405     64.07
MIN. COMP. =  60 DB              MAX. COMP. =  97 DB
ARITHMETIC MEAN =  80 DB
STD. DEVIATION =  13 DB
VARIANCE =169 DB
```

⑯

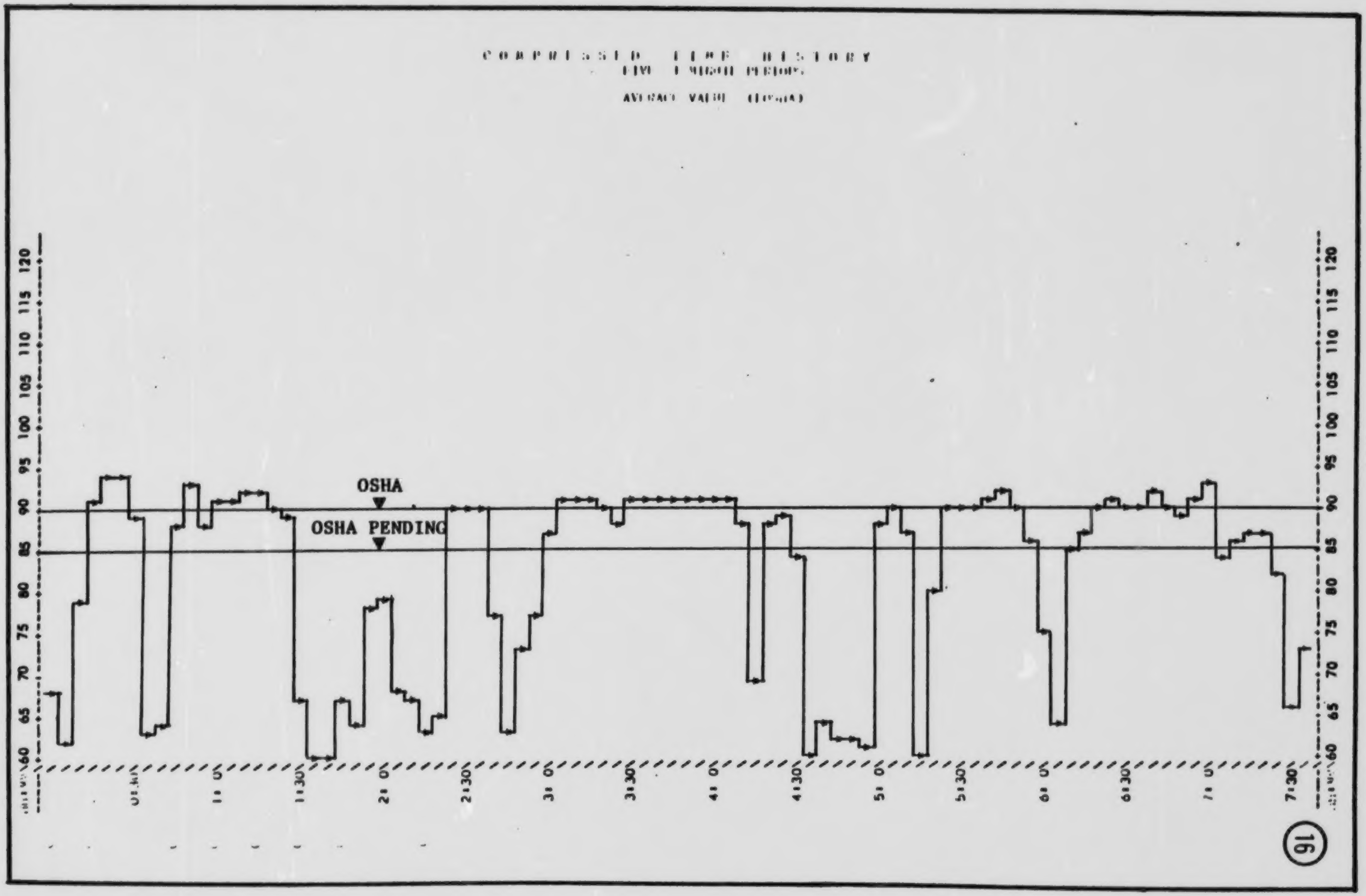
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
134	27.9	60 TO 64
30	6.3	65 TO 69
21	4.4	70 TO 74
12	2.5	75 TO 79
19	4.0	80 TO 84
54	11.3	85 TO 89
206	42.9	90 TO 94
4	.8	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution



Number of computations = 459



COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (DBA)

⑰

Mechanic helper

```
ENTER LOG DATE (DD/MM/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : 0627

 ENTER JOB CODE (3 CHARS) : 031
  1  26  85  1221   60   64    4    1
   33500     107434  447
  74   60   66   61   70   60   60   60   71   74   60   74   88   95   95   94
  96   91   85   79   66   72   90   86   72   77   60   71   65   68   77   61
  60   60   60   61   70   60   85   93   90   90   92   93   93   94   94   93
  90   88   89   91   95   92   93   93   93   93   93   93   93   93   93   93
  93   94   94   91   86   89   88   82   82   80   78   70   76   60   60   60
  60   60   83   87   87   87   86   87   89   89   87   87   87   88   88   88
  89   80   80   92   95   94   95   92   88   89   87   67   63   61   60   63
  61   60   60   60   71   75   73   71   72   60   67   60   60   60   60   60
  60   60   70   60   64   61   60   60   80   92   93   93   93   93   93   93
  94   95   95   94   93   93   93   93   94   93   93   93   93   93   93   93
  93   92   95   94   93   92   93   93   93   92   93   93   91   88   87   87
  87   87   87   87   90   90   88   87   87   90   90   92   93   93   93   93
  92   93   93   93   92   92   92   92   92   92   94   93   92   92   93   92
  93   94   92   92   92   88   87   87   87   89   87   87   88   88   87   87
  88   89   88   91   90   91   91   92   95   94   92   92   92   92   92   92
  92   92   92   92   92   92   92   92   92   92   93   92   92   93   93   93
  93   93   93   93   93   92   86   70   76   62   62   60   60   60   60   61
  64   60   60   60   60   61   61   68   60   60   60   60   65   64   60   60
  60   60   61   60   60   60   60   60   60   65   60   60   60   77   85   91
  92   93   93   92   92   92   92   93   92   92   92   92   92   93   93   93
  93   93   94   93   93   93   93   94   93   93   92   92   92   93   93   92
  93   93   94   94   94   94   95   92   88   87   88   89   88   90   89   88
  88   90   88   88   91   95   95   94   91   88   87   93   95   93   93   93
  93   93   93   93   93   93   94   93   93   93   93   93   93   93   92   92
  92   92   92   92   92   92   92   92   92   92   93   93   93   93   93   92
  92   93   93   93   92   93   93   93   92   92   92   92   93   92   92   92
  93   93   93   94   93   92   92   92   93   92   92   92   92   92   92   92
  92   93   93   93   93   93   94   95   96   93   87   80   82   83   66   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
%EOF
```

```
   DATA LOGGED : 7 JUNE 1979              DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : GRIND
 SERIAL NUMBER : 1221                          JOB CODE : 031
      BASELINE : 60 DB                        USER CODE : 0627
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  107434
 TEST DURATION =    7:27:38                STANDBY TIME =   2:19:35

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 447
PERIOD =  1 MINUTES

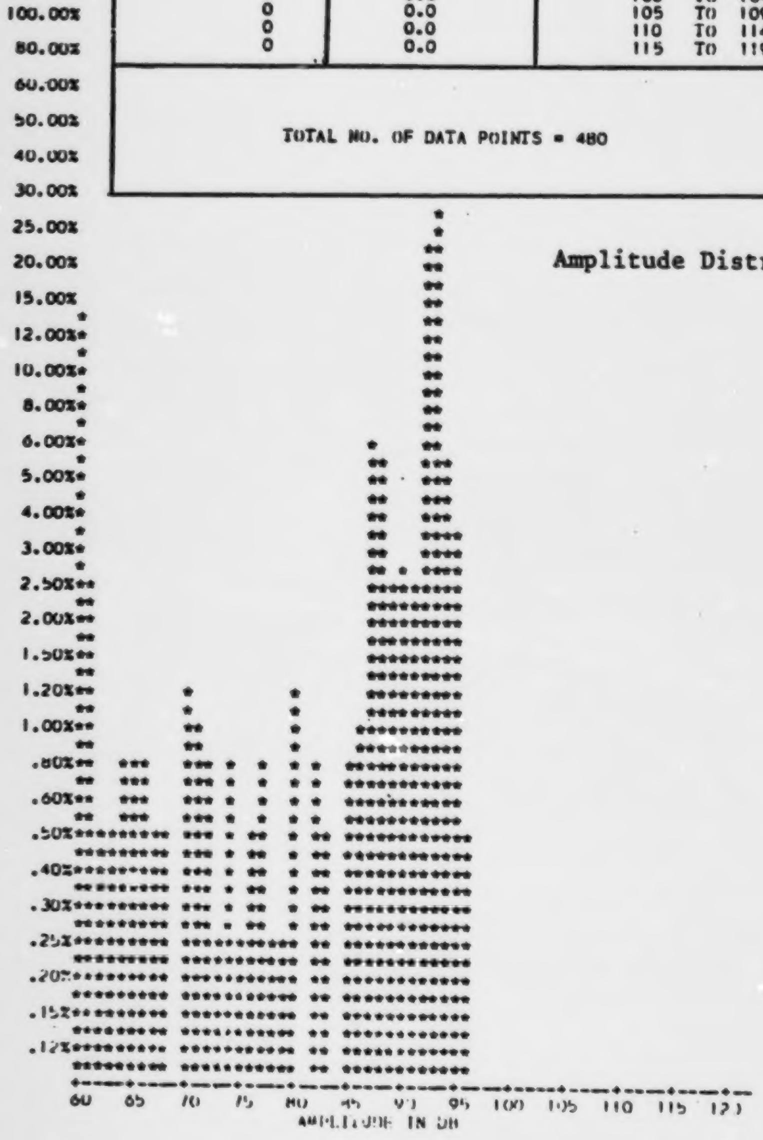
TIME          LOSHA                          %DOSE
HOUR   CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
   1     87.6      87.6                9.007      9.01
   2     86.7      87.2                7.911     16.92
   3     90.1      88.3               12.737     29.66
   4     91.2      89.1               14.742     44.40
   5     85.5      88.5                6.714     51.11
   6     91.9      89.2               16.239     67.35
   7     92.6      89.8               17.829     85.18
   8     91.7      89.9                7.153     92.33
MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
ARITHMETIC MEAN =  84 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

⑰

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
105	21.9	60 To 64
10	2.1	65 To 69
16	3.3	70 To 74
8	1.7	75 To 79
10	2.1	80 To 84
65	13.5	85 To 89
250	52.1	90 To 94
16	3.3	95 To 99
0	0.0	100 To 104
0	0.0	105 To 109
0	0.0	110 To 114
0	0.0	115 To 119

TOTAL NO. OF DATA POINTS = 480

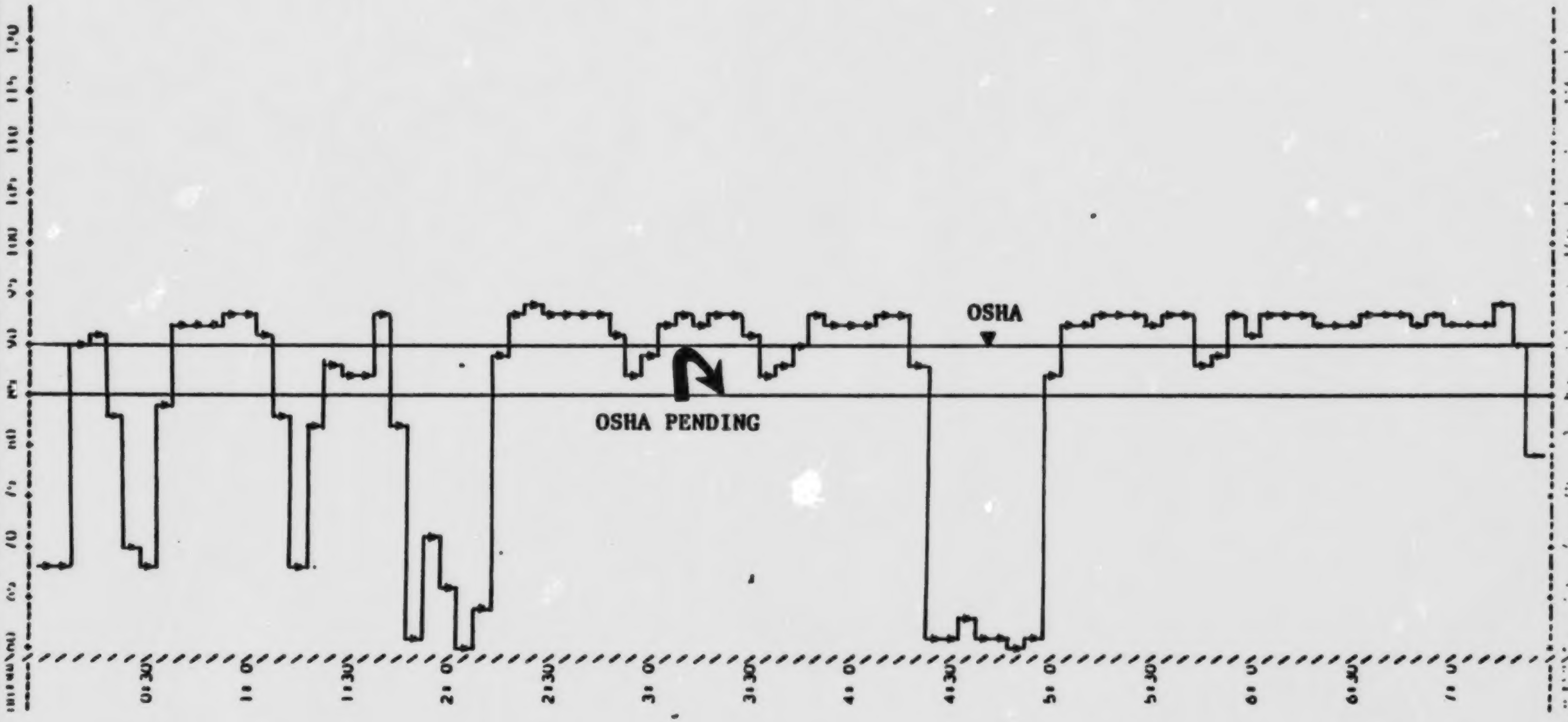
Amplitude Distribution



Number of computations = 447

⑰

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (Lo dBA)



Welder ⑱

```
ENTER LOG DATE (DY/MO/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0938
 ENTER JOB CODE (3 CHARS) : 004

  1  26  85  1213   60   64    4    1
  20257        88278  367
  72  66  88  93  93  93  94  94  94  93  93  92  93  93  93  92
  93  93  93  92  93  93  93  94  88  66  60  60  60  76  76  60
  86  87  79  67  61  60  60  60  60  66  60  60  60  60  60  60
  60  60  60  60  61  83  93  95  94  94  94  94  94  94  94  95
  94  95  92  91  90  92  90  92  90  89  93  90  93  93  93  93
  93  93  93  93  93  93  93  92  92  94  92  91  93  93  91  91
  95  96  92  92  94  92  92  95  94  94  94  93  93  93  93  95
  95  93  92  91  93  91  91  92  92  93  85  60  64  88  93  93
  93  93  93  94  95  95  94  95  91  90  92  91  90  90  90  90
  90  90  90  91  94  94  94  94  95  95  93  95  93  93  93  95
  95  95  94  94  93  94  95  94  93  93  95  94  96  94  97  98
  97  93  93  92  82  63  60  60  60  60  60  60  68  60  64  64
  60  61  62  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  66  65  73  73  92  94  94  94  95  93  94  94  94  94  94  94
  93  90  90  89  89  89  90  90  92  73  70  64  65  70  65  60
  87  64  60  65  64  60  66  74  71  60  60  63  60  65  60  60
  60  71  75  66  67  65  65  72  67  80  85  71  70  63  60  72
  92  89  60  70  74  60  68  89  92  92  93  93  93  93  93  93
  93  93  92  93  93  93  93  92  93  93  94  94  94  94  94  94
  94  95  94  94  93  93  93  93  94  94  94  94  94  88  91  94
  93  92  93  93  95  93  93  93  95  95  94  93  93  93  94  93
  93  97  99  97  95  93  85  73  60  81  90  89  92  66  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

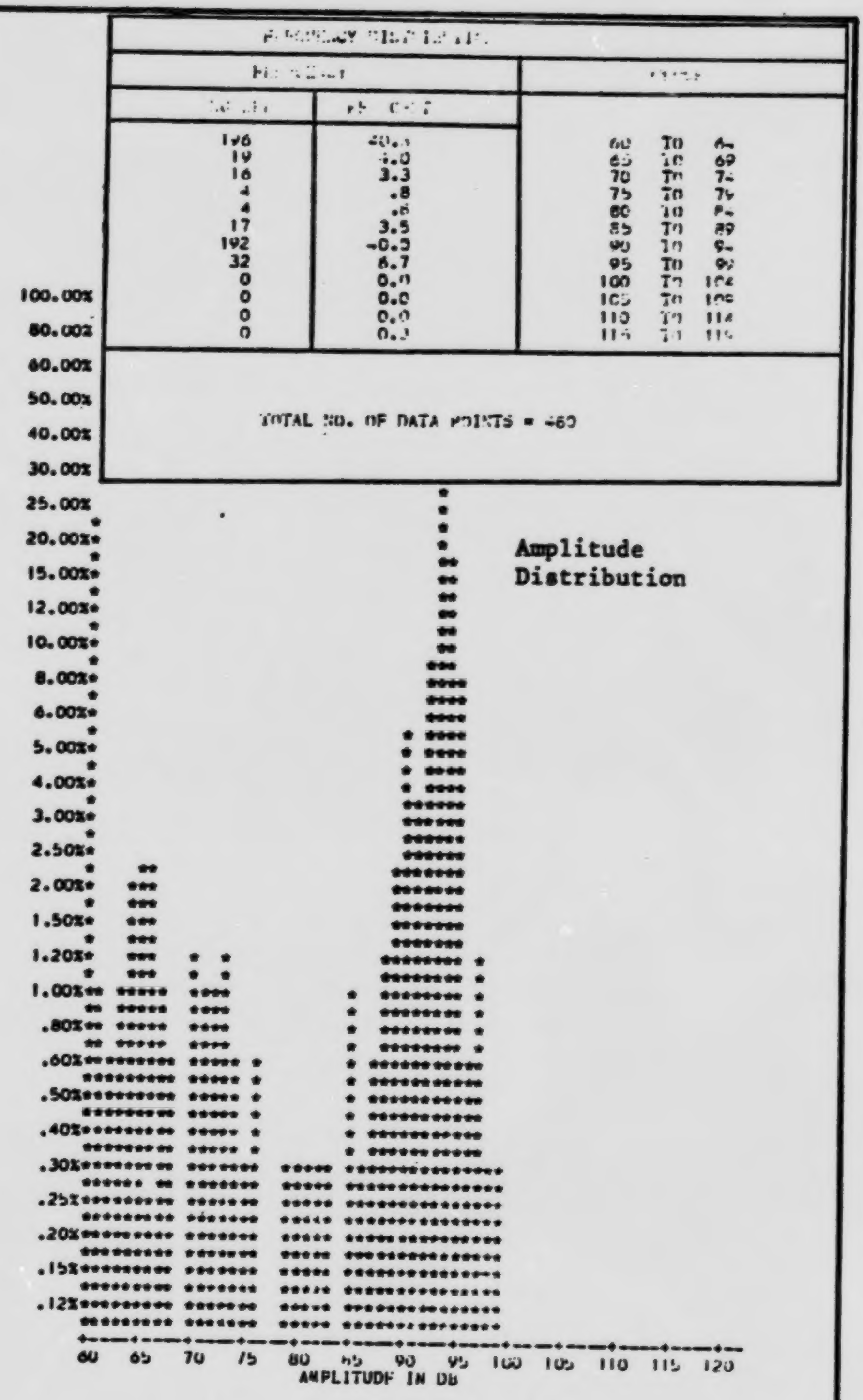
```
   DATA LOGGED : 6 JUNE 1979            DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : GRIND
 SERIAL NUMBER : 1213                        JOB CODE : 004
      BASELINE : 60 DB                      USER CODE : 0938
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =   88278
 TEST DURATION =    6: 7:49              STANDBY TIME =   1:24:24

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB .
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 367
 PERIOD =  1 MINUTES

 TIME           LOSHA                          %DOSE
 HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1       88.2       88.2             9.751      9.75
    2       92.8       90.9            18.547     28.30
    3       93.2       91.7            19.363     47.66
    4       82.7       90.3             4.550     52.21
    5       82.6       89.3             4.450     56.66
    6       93.5       90.2            20.262     76.92
    7       85.1       90.1              .738     77.66
 MIN. COMP. =  60 DB                 MAX. COMP. =  99 DB
 ARITHMETIC MEAN =  82 DB
 STD. DEVIATION =  14 DB
 VARIANCE =196 DB
```

⑱



FREQUENCY DISTRIBUTION

FREQUENCY		RANGE
NUMBER	PER CENT	
196	40.8	60 TO 64
19	4.0	65 TO 69
16	3.3	70 TO 74
4	.8	75 TO 79
4	.8	80 TO 84
17	3.5	85 TO 89
192	40.0	90 TO 94
32	6.7	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

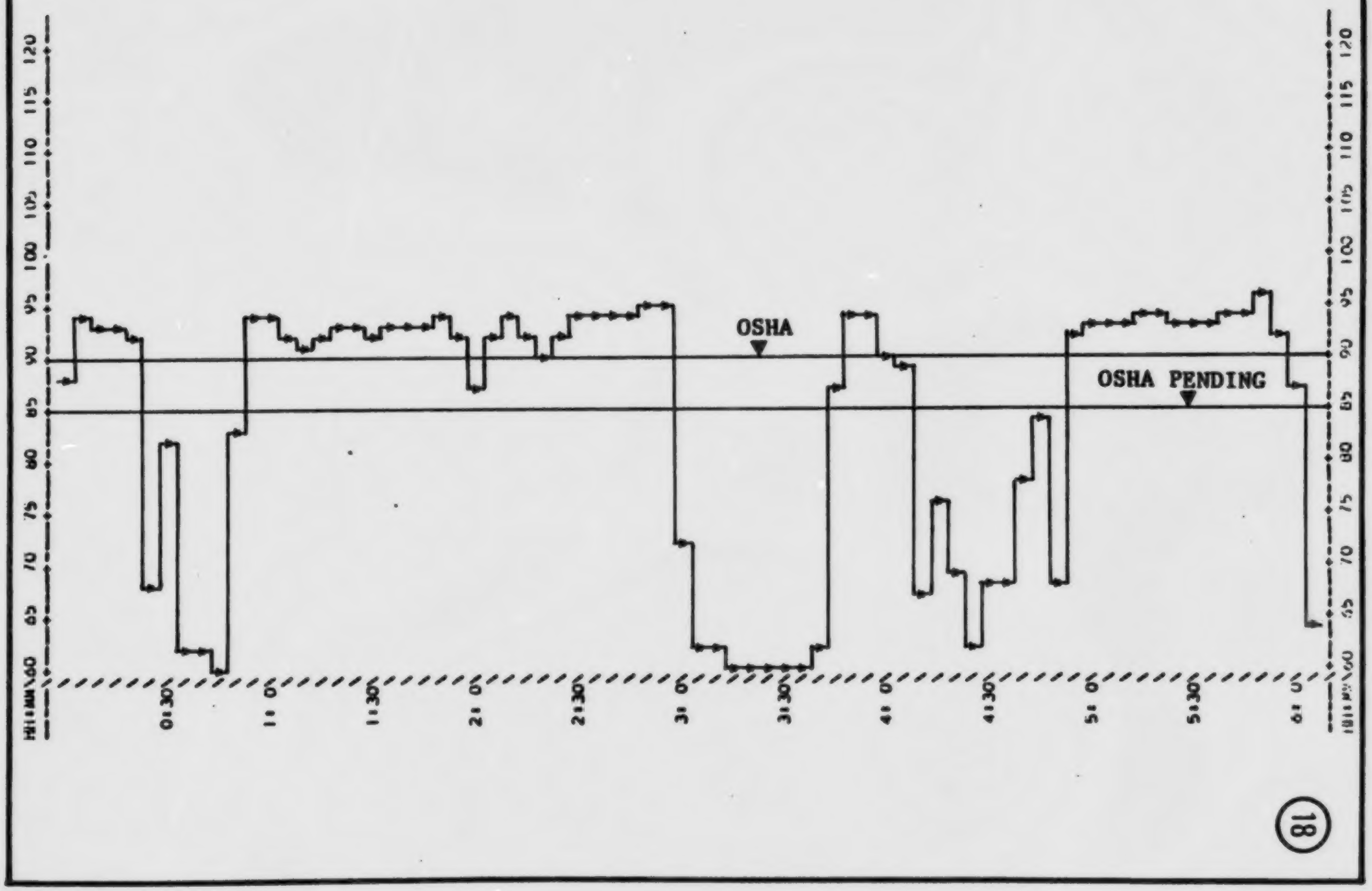
TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution

Number of computations = 367

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



⑲

Welder

```
ENTER LOG DATE (MO/DA/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0918
 ENTER JOB CODE (3 CHARS) : 004
  1   26   85   1220    60    64     4      1
   1/226      102840   428
  67  61  62  60  60  60  60  67  68  81  74  63  82  88  89  82
  93  95  95  93  95  94  95  97  98  98  96  94  95  95  95  93
  94 100  94  93  93  93  93  94  95  96  94  94  98  95  94  94
  94  94  94  95  98  94  94  94  96  95  98  95  94  94  95  93
  94  93  94  95  97  93  93  93  92  60  60  79  62  70  73  70
  78  67  63  60  61  73  94  94  89  88  84  80  87  88  89  89
  90  88  67  62  60  69  63  60  60  60  74  73  78  78  76  64
  60  64  60  60  60  70  60  60  62  60  60  62  60  60  76  91
  90  87  71  87  90  88  88  89  90  90  90  89  89  89  89  89
  90  91  89  89  90  89  83  85  76  79  79  81  86  87  83  89
  89  88  88  88  88  88  88  88  88  88  90  89  87  84  89  90
  89  88  88  88  89  90  89  89  88  90  89  83  70  70  64  60
  60  60  60  67  60  71  61  63  60  60  74  80  88  89  89  89
  88  89  90  89  88  88  92  91  89  93  93  93  83  91  90  90
  88  89  89  93  93  88  88  87  90  91  86  61  60  83  92  91
  91  91  87  88  87  85  92  88  87  88  90  89  79  69  79  61
  63  60  60  60  60  61  65  60  60  60  60  66  60  60  60  60
  60  60  63  60  60  60  68  68  66  60  62  69  60  60  60  63
  60  60  60  87  93  94  96  91  89  89  88  86  89  88  90  87
  88  88  88  89  90  91  88  89  89  90  88  86  89  88  89  88
  89  91  89  89  89  90  89  89  88  88  89  88  91  92  89  88
  89  89  89  90  89  89  88  92  88  89  90  89  89  86  84  86
  89  89  89  89  89  89  89  89  90  89  88  87  82  77  80  74
  76  78  75  77  82  77  78  82  76  78  79  92  92  91  90  89
  89  84  82  84  74  79  80  80  88  89  88  89  89  90  90  89
  89  89  90  90  89  89  90  90  91  91  90  90  89  89  89  89
  88  89  89  89  88  82  87  86  79  78  78  73  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF
```

```
   DATA LOGGED : 7 JUNE 1979                 DATA ANALYZED : 17  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : GRIND
 SERIAL NUMBER : 1220                             JOB CODE : 004
      BASELINE : 60 DB                           USER CODE : 0918
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  102840
 TEST DURATION =    7: 8:30                   STANDBY TIME =   1:11:46

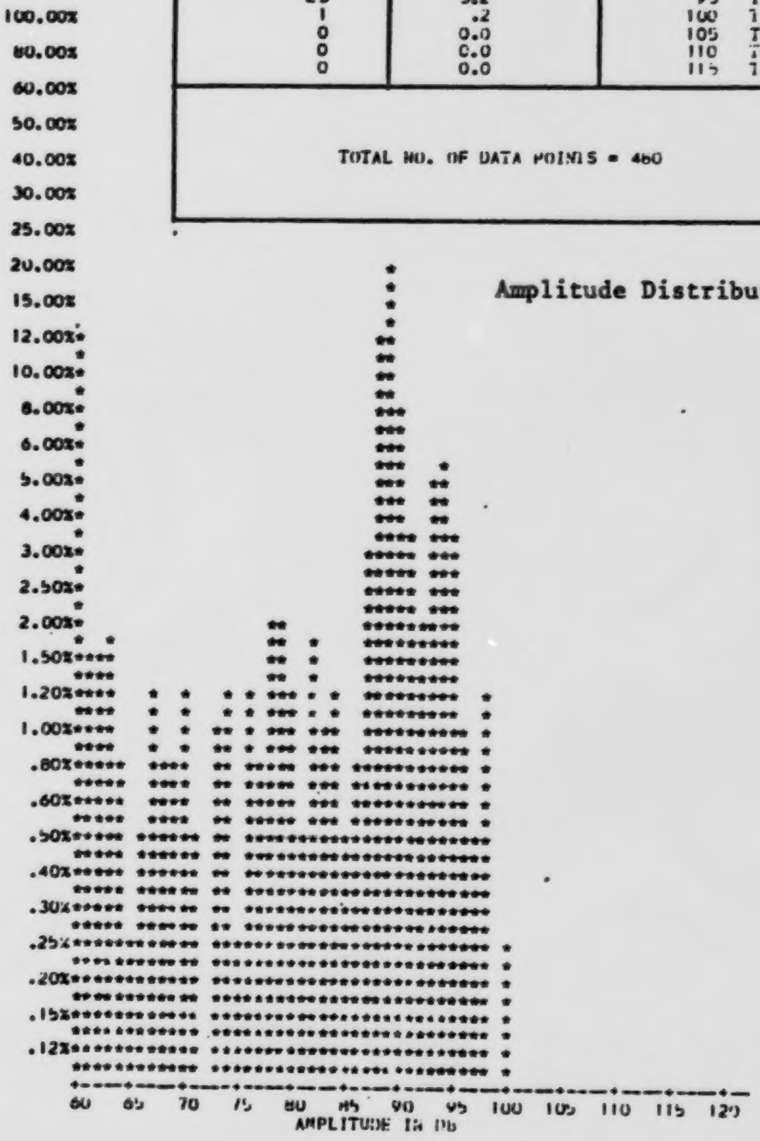
           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 428
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      93.1       93.1           19.240      19.24
   2      86.2       90.4            7.339      26.58
   3      87.1       89.5            8.410      34.99
   4      87.4       89.0            8.675      43.66
   5      82.8       88.1            4.605      48.27
   6      89.0       88.3           10.833      59.10
   7      87.2       88.1            8.441      67.54
   8      83.0       88.1             .628      68.17
MIN. COMP. =  60 DB                 MAX. COMP. = 100 DB
ARITHMETIC MEAN =  82 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

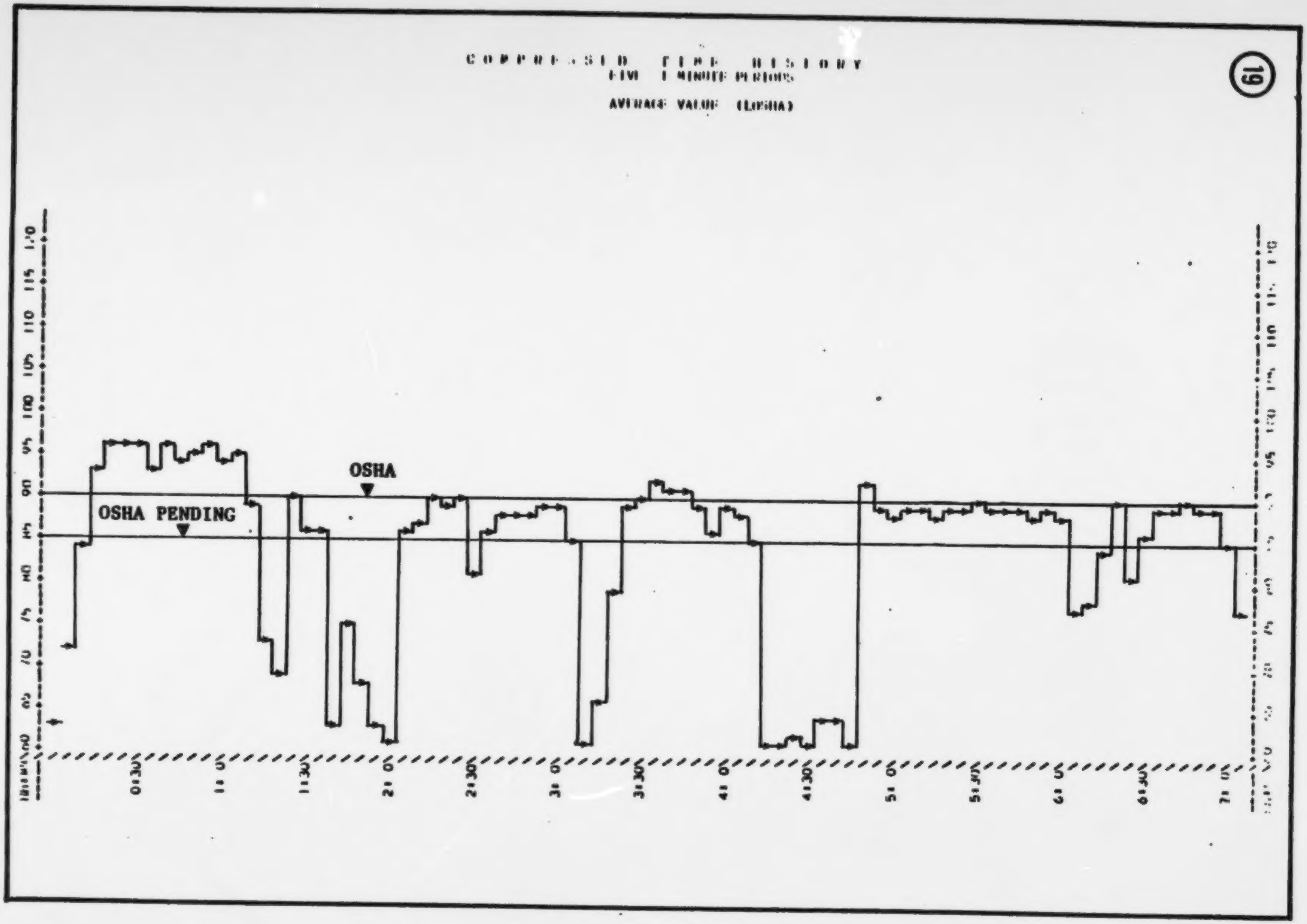
FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
127	26.5	60 TO 64
14	2.9	65 TO 69
16	3.3	70 TO 74
25	5.2	75 TO 79
23	4.8	80 TO 84
152	31.7	85 TO 89
97	20.2	90 TO 94
25	5.2	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

Number of computations = 428


⑲
COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

⑳

Welder

```
ENTER LOG DATE (DD/MM/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : -938
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1219   60   64    4    1
   32361     105086  437
   67  72  60  70  85  94  97  97  96  97  93  93  89  89  90  88
   79  60  60  60  60  60  88  92  93  93  93  93  93  93  93  93
   93  94  90  90  89  91  93  93  93  94  92  92  92  91  92  93
   92  91  92  92  93  94  93  92  92  93  93  93  93  92  95  93
   93  94  95  94  93  92  92  94  89  87  87  87  87  88  88  89
   89  88  87  87  87  87  90  89  87  88  91  93  92  92  85  86
   86  86  88  88  76  60  63  80  77  74  63  70  71  80  77  72
   76  72  68  66  67  60  60  65  64  60  60  60  70  66  60  63
   63  85  92  92  94  92  92  93  92  92  94  95  96  94  92  92
   93  92  92  92  92  92  92  92  92  93  92  92  92  91  92  92
   92  91  92  93  92  92  92  92  92  92  92  93  92  91  88  87
   87  86  91  88  90  92  92  92  92  92  93  93  92  92  92  92
   92  92  91  92  92  93  93  93  93  93  93  92  93  92  92  92
   91  91  91  92  93  90  90  93  94  93  92  93  92  92  93  93
   92  92  93  92  92  92  92  93  92  92  93  92  92  92  92  92
   92  92  92  93  92  92  92  93  93  92  93  93  92  92  91  75
   61  76  61  64  60  60  60  60  68  60  60  64  62  68  64  63
   60  60  60  60  60  61  60  60  60  61  62  60  60  66  63  60
   60  60  60  60  60  60  85  91  92  92  92  92  92  93  93  92
   93  92  92  93  92  92  93  92  91  92  92  91  91  92  91  92
   93  93  93  93  92  92  91  92  92  92  92  92  93  92  92  92
   92  93  93  93  93  93  93  94  94  94  94  93  93  94  93  82
   84  92  93  92  92  93  93  93  93  92  92  92  92  92  92  93
   92  92  92  92  93  92  92  92  92  92  92  93  91  92  91  91
   92  92  92  92  92  93  92  92  92  92  92  91  92  92  93  93
   92  92  91  92  92  93  91  92  92  91  91  93  92  92  92  93
   93  92  92  92  92  92  92  92  92  92  92  91  92  92  92  92
   94  95  90  81  66  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED : 7 JUNE 1979            DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                  SITE CODE : GRIND
  SERIAL NUMBER : 1219                        JOB CODE : 004
       BASELINE : 60 DB                      USER CODE : -938
  DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  105086
  TEST DURATION =    7:17:51              STANDBY TIME =   2:14:50

           TIME HISTORY ANALYSIS

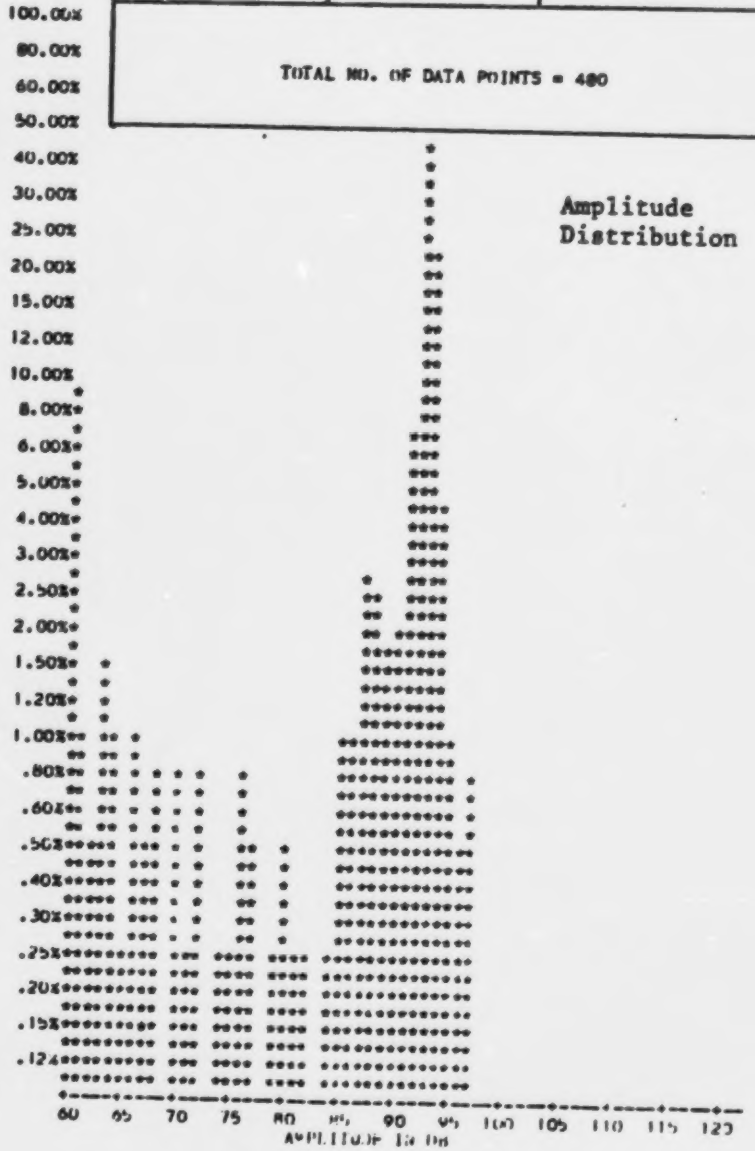
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 437
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      91.3       91.3           15.054     15.05
   2      87.7       89.7            9.065     24.12
   3      90.8       90.1           13.905     38.02
   4      92.2       90.7           16.975     55.00
   5      84.6       89.8            5.944     60.94
   6      92.3       90.3           17.305     78.25
   7      92.1       90.6           16.659     94.91
   8      91.4       90.6            4.318     99.23
MIN. COMP. =  60 DB                MAX. COMP. =  97 DB
ARITHMETIC MEAN =  86 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑳

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
95	19.8	60 TO 64
10	2.1	65 TO 69
8	1.7	70 TO 74
7	1.5	75 TO 79
5	1.0	80 TO 84
36	7.5	85 TO 89
310	64.6	90 TO 94
9	1.9	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

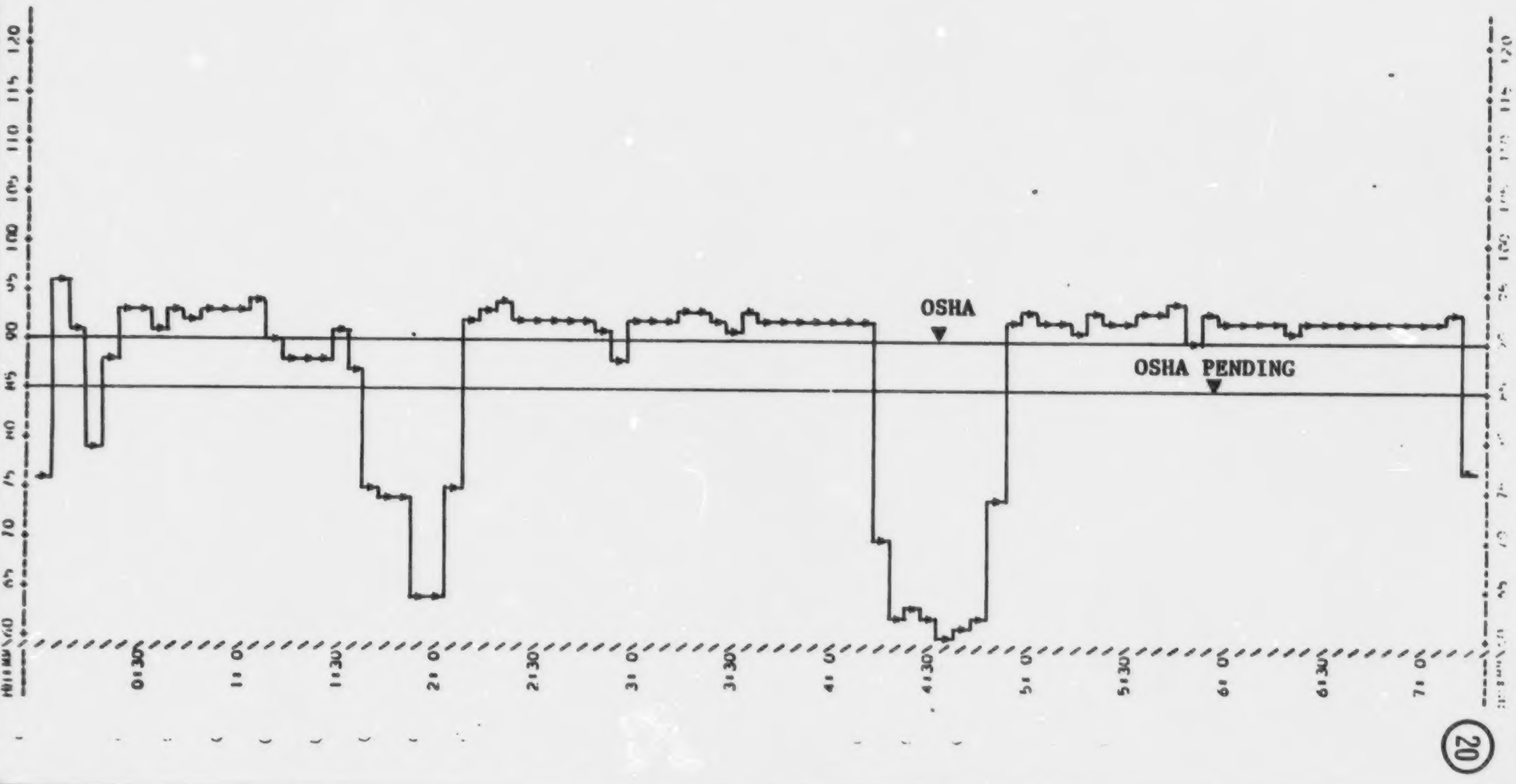


Amplitude Distribution

Number of computations = 437

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



㉑

Welder

```
..DB65108
ENTER LOG DATE (MO/DD/YR) : 08/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0748
 ENTER JOB CODE (3 CHARS) : 021

  1  26  85  1226   60   64    4    1
   1/617      112485  468
   65  60  62  60  61  70  64  76  90  70  68  60  60  60  60  60
   60  60  60  60  60  60  60  62  65  68  61  61  60  60  61  60
   60  60  74  84  67  65  70  75  70  80  90  73  77  80  84  65
   60  65  80  66  75  75  64  60  80  74  60  61  65  72  64  65
   60  61  70  80  79  70  60  61  70  68  61  63  74  77  79  60
   76  79  72  80  60  60  63  65  63  64  69  66  74  67  60  68
   70  75  84  60  78  72  71  71  86  77  63  72  85  78  68  60
   61  60  64  60  60  63  62  69  60  60  60  60  60  60  60  63
   66  61  60  60  60  80  89  91  79  60  60  60  60  60  60  84
   92  77  83  72  83  73  83  61  73  76  85  60  71  71  68  80
   65  72  74  77  70  66  69  64  64  68  66  73  71  85  81  61
   61  67  62  77  69  61  69  63  65  66  64  60  69  60  64  60
   66  68  60  60  61  65  61  60  60  65  60  60  76  87  75  76
   77  60  67  73  61  71  66  70  66  69  60  71  66  60  79  78
   90  94  93  91  93  88  81  62  79  68  60  72  81  66  71  64
   62  67  62  60  74  61  61  66  63  60  84  86  70  85  68  60
   63  60  65  63  72  65  60  60  60  60  63  66  62  67  62  60
   62  60  60  60  60  60  65  70  65  70  66  71  73  60  61  60
   60  60  64  60  60  60  76  60  66  81  60  60  66  70  75  77
   60  67  60  60  67  60  60  60  66  66  75  73  89  93  92  94
   94  94  97  93  93  94  93  90  93  92  93  93  93  96  93  93
   94  94  93  94  94  94  94  95  95  94  93  93  94  95  95  94
   96  93  94  93  90  89  89  60  87  89  60  60  60  60  85  83
   84  84  83  80  84  84  82  86  75  81  79  89  83  72  81  90
   89  90  89  90  89  90  89  89  90  90  89  89  89  92  90  89
   89  89  89  89  92  89  90  90  92  85  78  60  71  65  67  62
   68  68  60  67  67  60  76  60  73  72  71  68  70  72  69  76
   60  72  60  60  60  68  79  80  87  60  68  60  60  76  60  60
   60  60  60  60  60  61  60  64  61  60  60  60  60  60  60  60
   60  60  60  76  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
    DATA LOGGED : 8 JUNE 1979              DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : GRIND
  SERIAL NUMBER : 1226                          JOB CODE : 021
       BASELINE : 60 DB                        USER CODE : 0748
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  112485
  TEST DURATION =   7:48:41                 STANDBY TIME =   1:14:14

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 468
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1      73.4       73.4              1.249       1.25
   2      72.7       73.1              1.139       2.39
   3      76.4       74.4              1.907       4.30
   4      78.2       75.5              2.426       6.72
   5      69.6       74.7               .737       7.46
   6      91.2       81.2             14.681      22.14
   7      85.9       82.1              7.117      29.26
   8      69.8       81.5               .604      29.86
MIN. COMP. =  60 DB                  MAX. COMP. =  97 DB
ARITHMETIC MEAN =  71 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

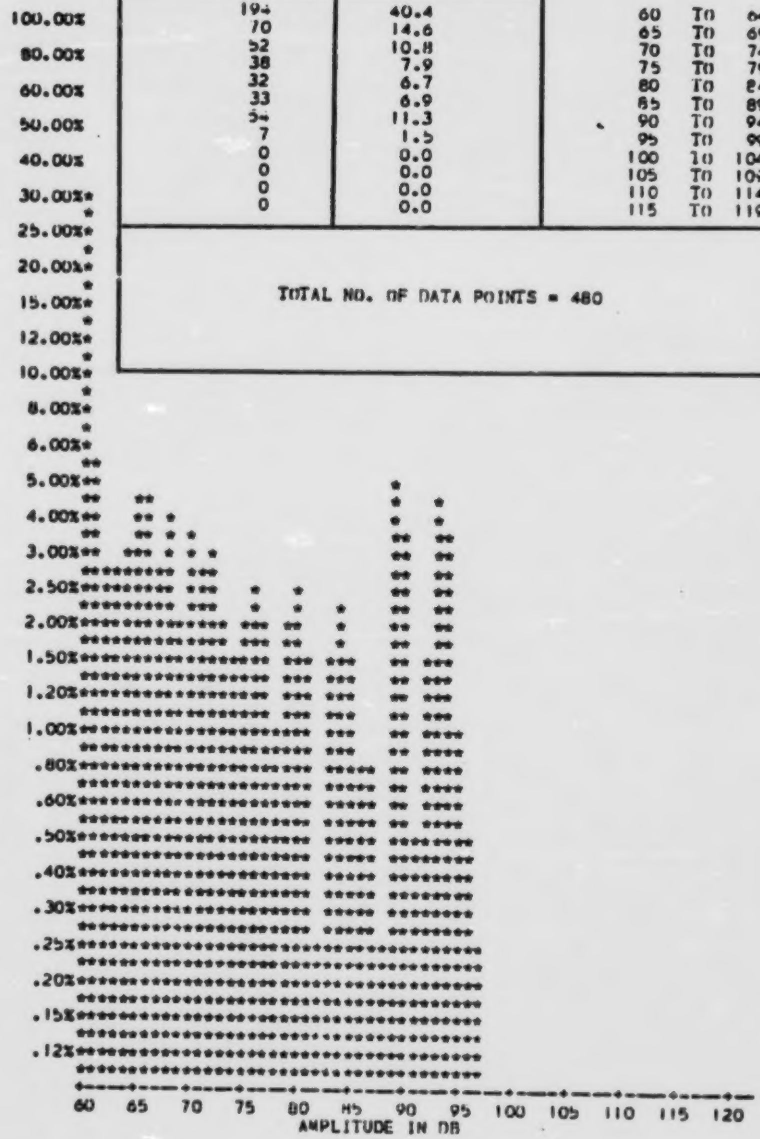
Amplitude Distribution

㉑

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
194	40.4	60 TO 64
70	14.6	65 TO 69
52	10.8	70 TO 74
38	7.9	75 TO 79
32	6.7	80 TO 84
33	6.9	85 TO 89
54	11.3	90 TO 94
7	1.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

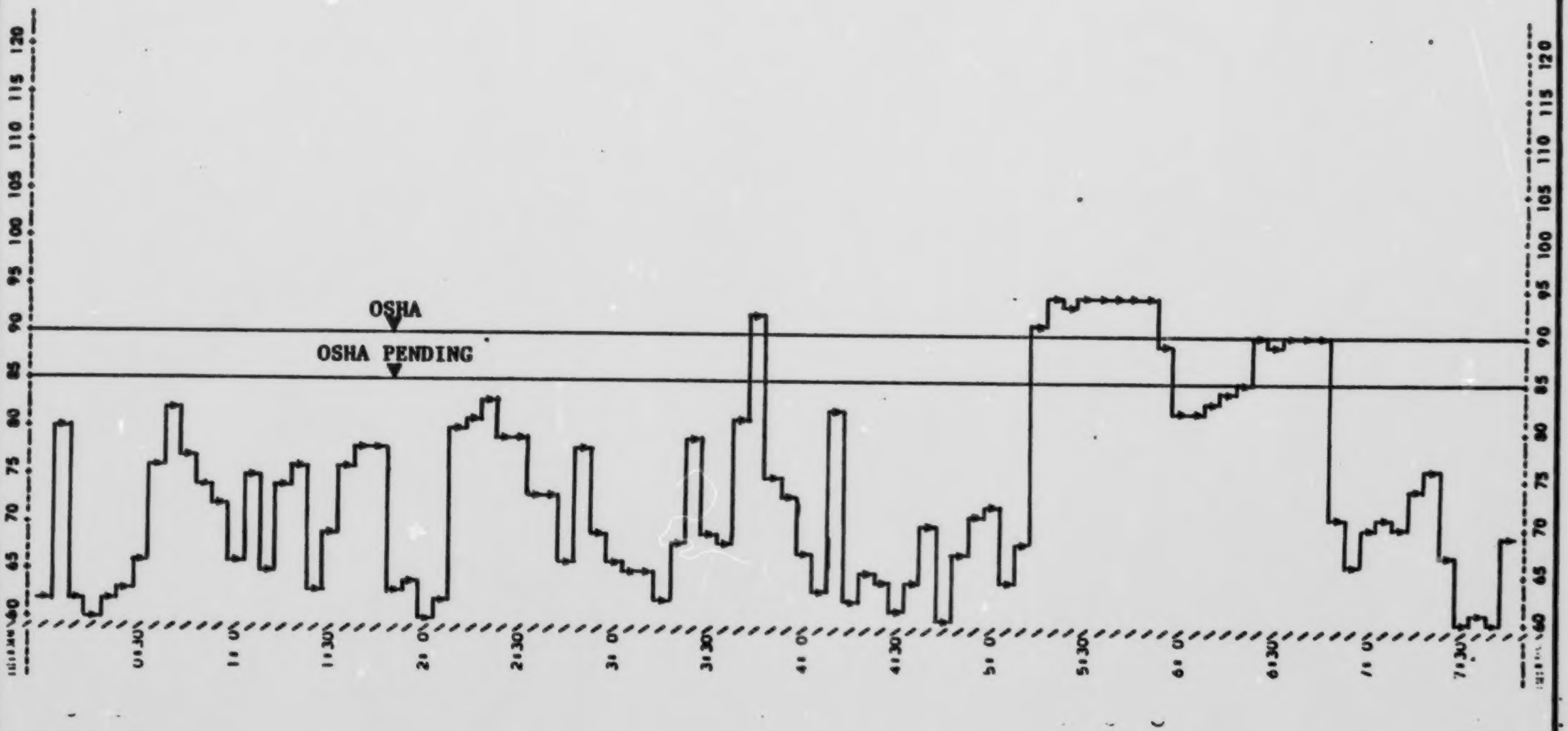


Number of computations = 468

㉑

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LEQ dBA)



Welder ㉒

```
ENTER LOG DATE (MO/DY/YR) : 06/08/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0627
 ENTER JOB CODE (3 CHARS) : 031
  1  26  85  1221   60   64    4    1
  29669      109078  454
  71  68  78  63  60  60  68  65  74  76  87  86  91  95  98  92
  93  91  90  90  83  92  97  98  98  96  95  93  91  91  91  87
  79  60  62  69  61  79  60  63  60  70  74  72  60  84  81  63
  60  60  62  72  87  87  84  84  83  68  76  87  90  90  89  90
  91  91  93  90  89  90  90  90  90  89  89  74  90  91  89  89
  90  90  90  90  89  90  90  89  90  89  90  90  90  90  91  90
  90  89  90  90  90  90  91  90  90  90  90  88  60  60  60  60
  60  63  63  66  67  70  67  65  60  70  60  67  65  65  60  60
  62  71  63  63  64  61  60  60  60  60  60  60  60  78  90  93
  92  89  90  85  89  88  88  87  83  88  89  90  89  89  83  78
  77  72  78  86  88  87  80  79  67  81  65  78  79  80  89  80
  60  82  71  71  62  60  60  78  77  64  70  74  89  90  89  89
  90  89  90  91  90  91  91  92  91  93  93  92  92  92  87  87
  88  86  87  84  89  93  94  93  93  93  93  93  94  92  92  93
  92  92  94  94  93  93  90  84  83  83  83  94  94  93  94  94
  93  93  93  98  99 100 101 101 100 102 101 102  99  98 100  94
  94  93  92  92  90  76  86  89  71  60  60  61  60  61  60  60
  60  60  60  60  60  60  60  63  61  60  60  60  61  60  64  61
  60  60  60  60  60  60  60  60  61  79  82  93  93  95  95  93
  94  94  93  93  93  94  94  94  94  94  94  94  93  93  94  93
  93  93  94  93  93  93  93  94  91  91  86  66  73  92  93  89
  79  81  91  88  88  91  89  87  88  88  87  88  86  88  87  89
  90  92  94  96  95  94  94  94  94  93  93  93  94  94  93  93
  93  93  93  94  93  92  93  93  93  92  92  92  93  93  93  93
  93  94  92  92  92  92  93  93  91  92  92  93  93  92  93  92
  93  93  93  92  92  95  94  93  90  90  88  64  69  69  60  60
  67  67  60  60  68  62  60  60  60  67  73  74  67  75  70  70
  78  66  63  61  60  60  73  60  74  63  60  66  60  65  60  60
  60  60  60  60  60  62  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED : 8 JUNE 1979                DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                      SITE CODE : GRIND
  SERIAL NUMBER : 1221                            JOB CODE : 031
       BASELINE : 60 DB                          USER CODE : 0627
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  109078
  TEST DURATION =   7:34:29                   STANDBY TIME =   2: 3:37

          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 454
  PERIOD =  1 MINUTES

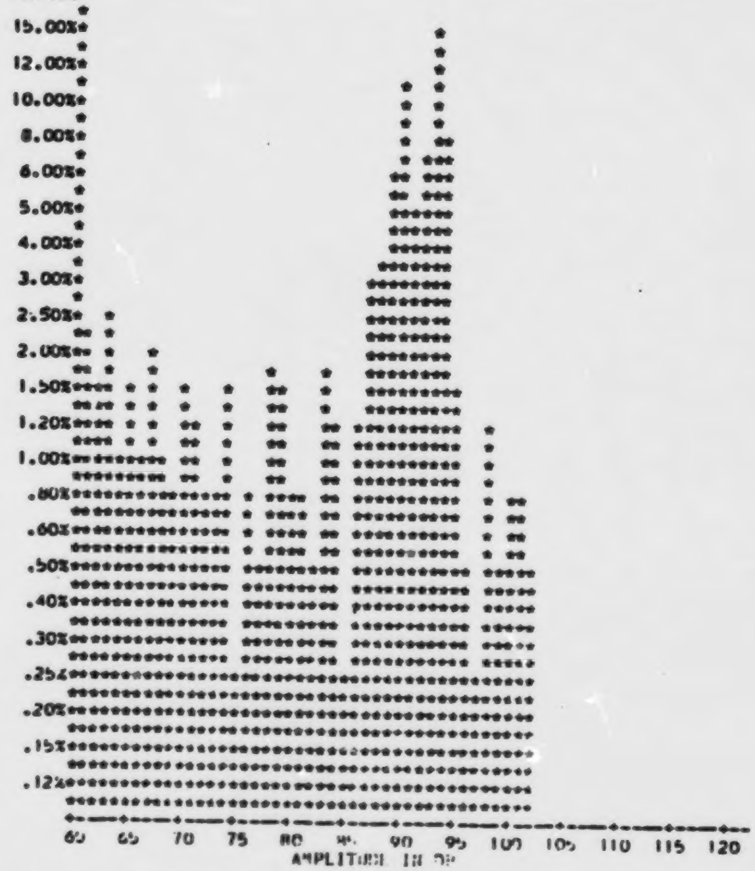
  TIME           LOSHA                          %DOSE
  HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
     1       87.0      87.0              8.246      8.25
     2       88.3      87.7              9.827     18.07
     3       82.4      86.3              4.334     22.41
     4       90.3      87.5             13.030     35.44
     5       90.8      88.3             13.919     49.36
     6       91.9      89.0             16.298     65.65
     7       91.6      89.5             15.524     81.18
     8       67.1      88.9               .298     81.47
  MIN. COMP. =  60 DB                  MAX. COMP. = 102 DB
  ARITHMETIC MEAN =  81 DB
  STD. DEVIATION =  13 DB
  VARIANCE =169 DB
```

(22)

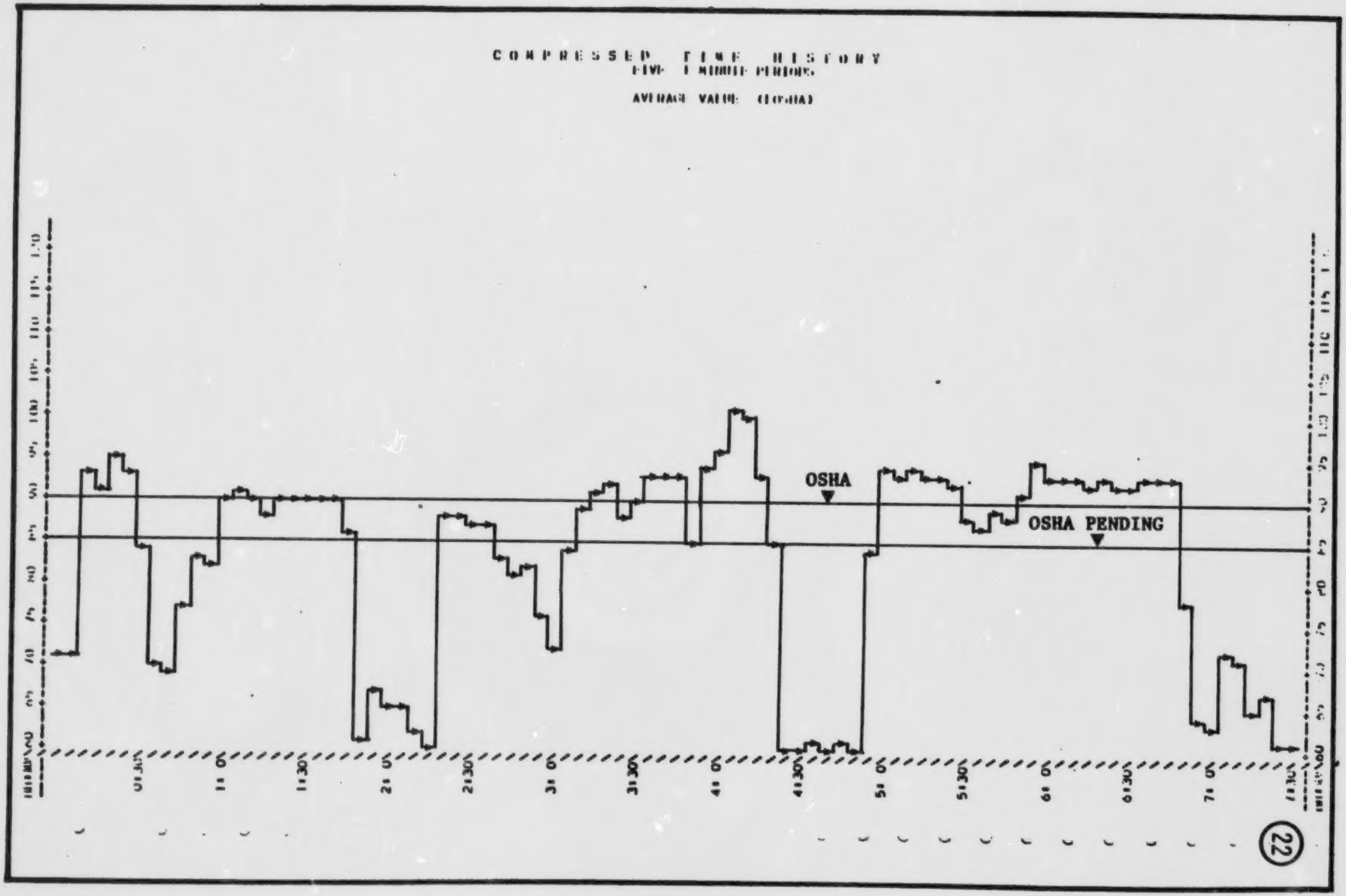
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
125	26.0	60 TO 64
25	5.2	65 TO 69
23	4.8	70 TO 74
19	4.0	75 TO 79
20	4.2	80 TO 84
58	12.1	85 TO 89
186	38.8	90 TO 94
16	3.3	95 TO 99
8	1.7	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution



Number of computations = 454



COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)

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Welder

```
ENTER TEST DATE (MM/DD/YR) : 06/08/79

ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0508
 ENTER JOB CODE (3 CHARS) : 001

 1  26  85  1220   60   64    4    1
  28070     110283  459
 76  66  60  88  90  82  77  86  79  77  60  63  60  68  70  73
 70  62  70  76  74  76  70  66  72  63  67  76  76  77  84  80
 70  78  79  75  87  92  79  81  65  61  60  62  65  63  63  62
 80  76  70  79  78  74  67  68  77  76  71  73  60  79  82  77
 78  63  67  69  67  71  79  82  73  80  68  68  78  76  79  68
 65  69  73  72  69  68  73  76  65  63  66  60  60  63  60  60
 60  68  64  61  60  60  70  76  82  76  67  64  71  73  69  74
 75  69  73  68  67  64  62  68  72  70  78  68  68  62  60  64
 78  90  91  80  65  61  60  65  60  62  83  92  79  82  70  83
 73  84  69  71  78  80  84  80  77  76  85  63  80  73  74  70
 69  61  68  64  72  70  71  67  85  90  68  81  68  60  61  78
 73  65  70  72  76  74  77  74  70  78  78  78  76  73  67  63
 76  65  86  67  86  85  74  69  76  70  73  76  60  66  78  72
 77  78  74  75  72  60  76  82  69  73  81  82  86  91  90  92
 82  78  69  72  69  65  76  79  74  73  71  68  73  69  60  63
 63  60  65  63  60  84  86  73  80  78  63  61  60  66  72  78
 67  67  70  63  60  63  65  60  63  79  67  65  60  60  60  69
 67  67  65  77  67  67  69  65  63  60  62  60  60  66  60  60
 67  75  78  73  81  62  60  69  74  74  77  61  60  60  60  60
 61  60  60  69  69  67  80  91  91  91  93  92  91  94  94  94
 95  94  93  94  93  93  94  94  94  94  95  95  95  93  93  94
 93  93  93  93  94  93  93  93  93  93  93  94  94  95  94  88
 89  89  85  77  87  78  87  86  86  87  86  87  87  86  86  87
 87  86  87  86  87  86  87  90  74  74  89  89  90  86  86  80
 91  79  68  73  87  84  79  90  90  92  88  89  92  90  93  80
 86  82  70  72  67  61  73  69  68  68  76  71  60  78  89  92
 95  90  69  84  85  92  85  85  87  87  89  89  90  86  88  91
 87  89  90  83  76  60  61  75  65  60  60  62  60  61  63  68
 71  65  64  60  60  61  60  60  60  60  73  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


   DATA LOGGED : 8 JUNE 1979                 DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : GRIND
 SERIAL NUMBER : 1220                             JOB CODE : 001
      BASELINE : 60 DB                           USER CODE : 0508
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  110283
 TEST DURATION =   7:39:30                    STANDBY TIME =   1:56:57

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 459
PERIOD =  1 MINUTES

TIME          LOSHA                          N.E.I.
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       77.3       77.3             2.164       2.16
   2       72.3       75.3             1.080       3.24
   3       78.3       76.4             2.480       5.72
   4       78.3       77.0             2.466       8.19
   5       71.4       76.1              .942       9.13
   6       91.1       81.7            14.646      23.78
   7       86.1       82.5             7.245      31.02
   8       82.1       82.5             2.729      33.75
MIN. COMP. =  60 DB                  MAX. COMP. =  95 DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

Amplitude Distribution

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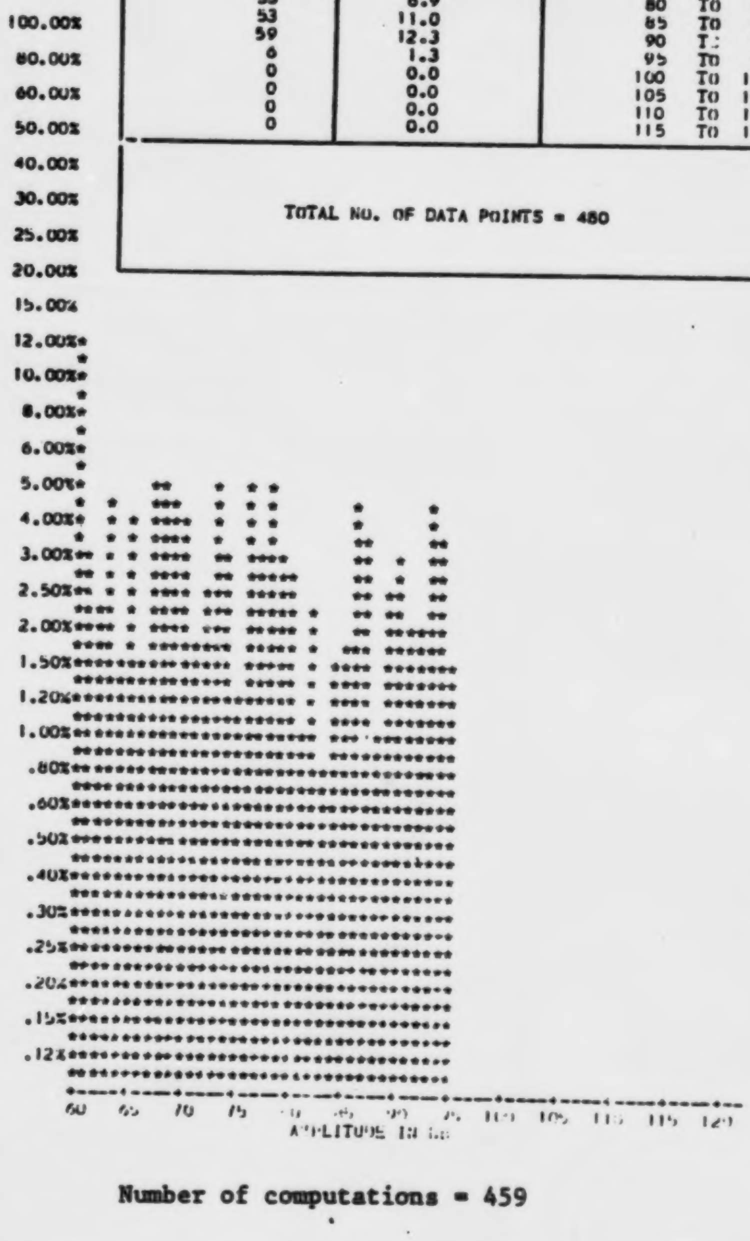
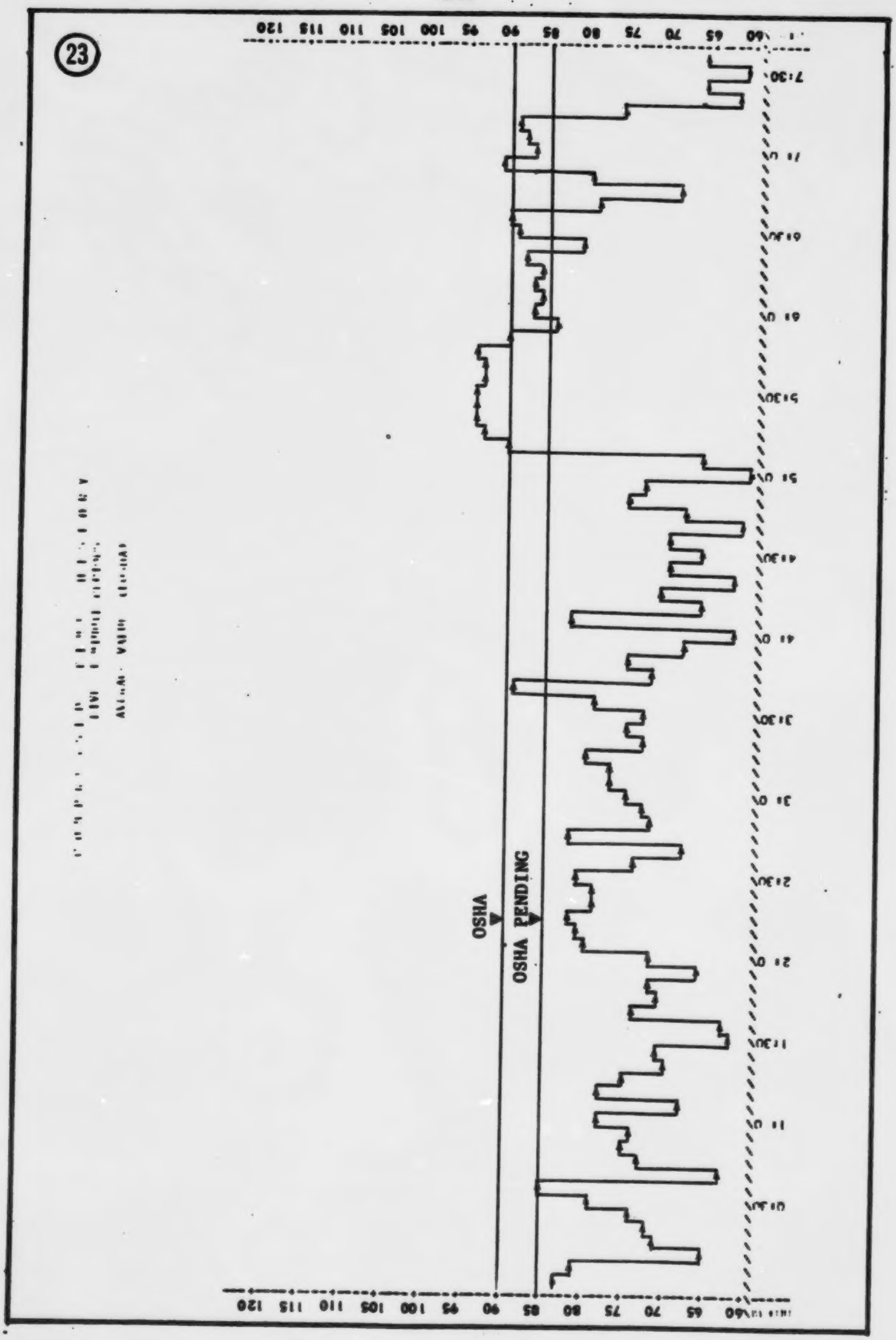
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
116	24.2	60 TO 64
78	16.3	65 TO 69
66	13.8	70 TO 74
69	14.4	75 TO 79
33	6.9	80 TO 84
53	11.0	85 TO 89
59	12.3	90 TO 94
6	1.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 459


23
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Welder ㉔

```
ENTER LOG DATE (DD/MM/YR) : 08/06/79

ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0918

 ENTER JOB CODE (3 CHARS) : 004
  1   26   85   1216   60   64   4   1
   41467     101799  424
  62  61  79  80  69  79  82  85  60  74  64  63  76  82  77  65
  85  74  71  73  88  79  63  78  70  76  61  60  63  73  86  92
  93  91  60  60  60  60  75  87  91  87  89  87  93  90  90  60
  74  75  81  60  75  89  84  83  78  83  85  85  85  92  88  80
  91  85  66  72  67  60  69  68  66  60  77  76  60  60  67  79
  69  74  76  68  70  74  75  65  60  63  71  62  60  69  71  60
  60  78  77  60  66  60  66  60  70  61  61  60  77  60  63  64
  66  68  73  61  68  66  68  67  70  60  75  60  60  72  60  60
  60  62  60  68  65  60  72  60  60  60  60  80  60  60  60  60
  66  70  79  69  60  68  60  61  65  60  72  72  69  60  60  60
  60  60  76  72  86  62  79  83  70  71  67  73  73  65  61  65
  61  78  75  62  62  64  61  60  64  61  67  64  68  72  66  69
  74  63  63  66  77  75  73  72  79  75  7'  68  63  75  63  60
  64  64  80  62  69  61  60  60  62  61  61  62  60  60  61  67
  72  63  60  63  62  62  61  65  73  67  63  62  60  62  60  63
  64  74  71  66  67  67  60  60  60  66  66  60  60  60  60  60
  60  60  60  63  60  60  60  60  60  60  60  60  64  60  61  77
  86  79  69  66  69  70  72  72  72  72  64  78  75  71  69  60
  72  71  73  70  74  71  76  70  71  73  80  75  75  73  77  65
  60  64  63  67  63  70  70  79  72  74  77  69  60  63  73  76
  70  61  78  75  79  78  80  79  78  72  67  66  69  65  90  85
  86  85  84  77  77  81  74  87  81  75  80  77  79  81  85  76
  73  75  76  81  84  69  63  63  62  64  62  82  76  83  78  84
  78  74  69  74  70  75  82  82  78  79  76  78  81  77  83  78
  75  70  76  68  74  76  63  66  75  77  80  76  70  76  93  89
  82  82  83  76  77  71  87  82  60  75  68  60  63  60  61  63
  60  60  60  77  65  73  93  67  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED : 8 JUNE 1979              DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : GRIND
  SERIAL NUMBER : 1216                          JOB CODE : 004
       BASELINE : 60 DB                        USER CODE : 0918
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  101799
  TEST DURATION =   7: 4: 9                 STANDBY TIME =   2:52:46

          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 424
  PERIOD =  1 MINUTES

  TIME          LOSHA                      %DOSE
  HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
     1      82.4      82.4           4.368      4.37
     2      75.1      79.6           1.578      5.95
     3      70.4      77.7            .829      6.78
     4      68.0      76.2            .594      7.37
     5      70.5      75.4            .833      8.20
     6      77.7      75.8           2.259     10.46
     7      78.1      76.2           2.393     12.85
     8      83.8      76.3            .351     13.20
  MIN. COMP. =  40 DB              MAX. COMP. =  91 DB
  ARITHMETIC MEAN =  70 DB
  STD. DEVIATION =   9 DB
  VARIANCE = 81 DB
```

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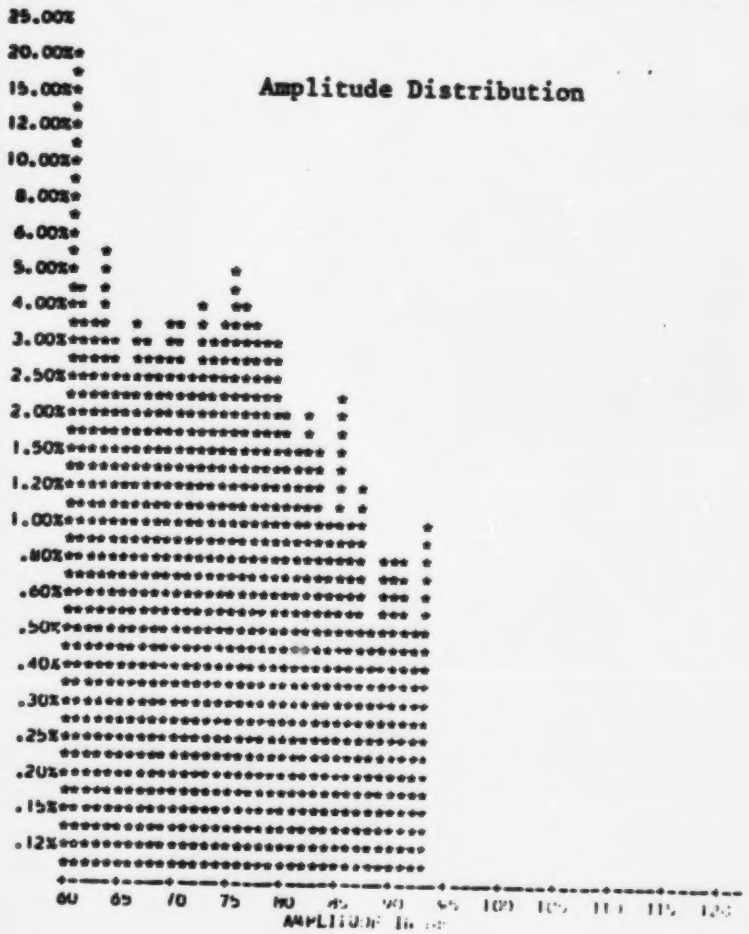
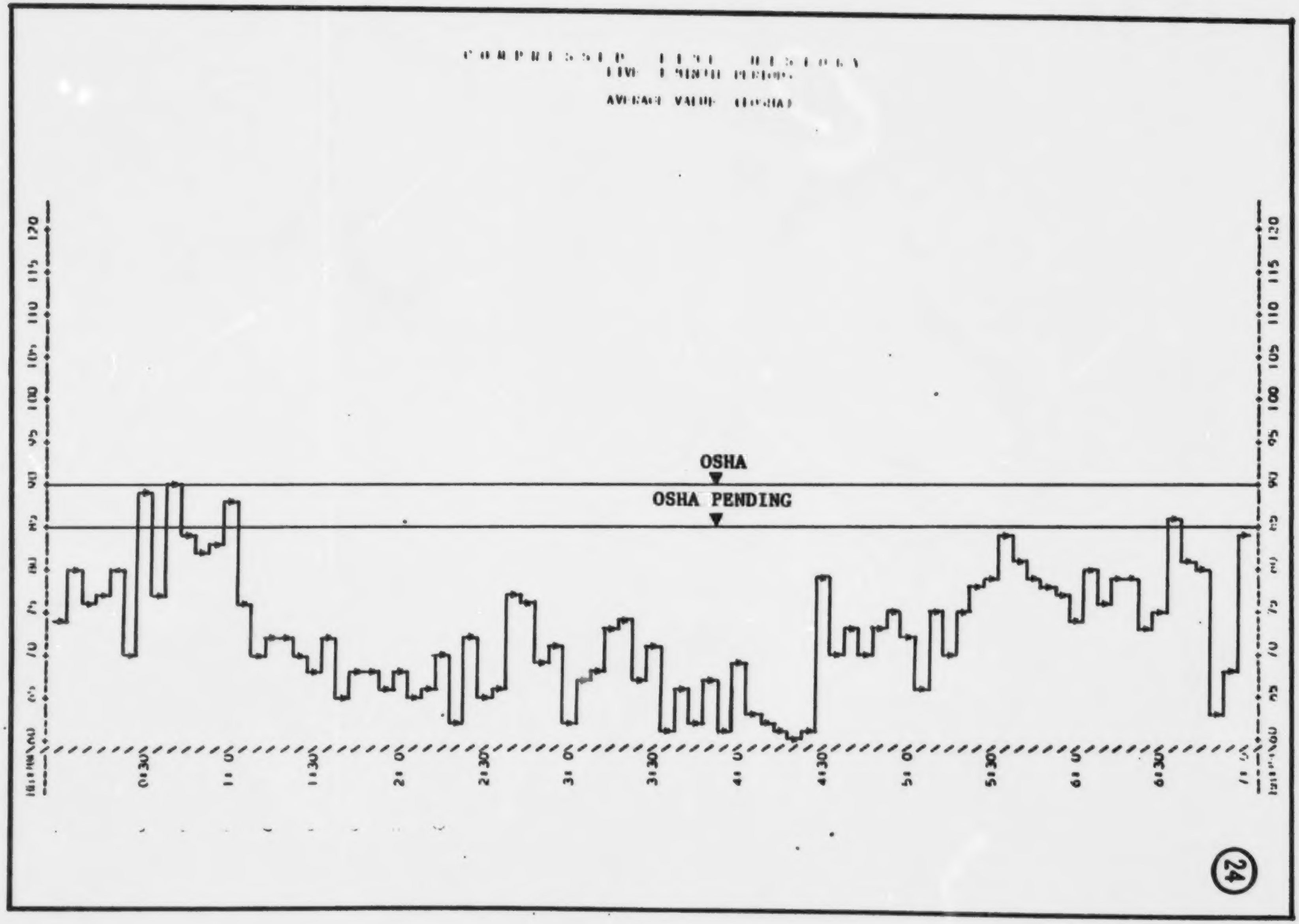
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
206	42.9	60 TO 64
63	13.1	65 TO 69
68	14.2	70 TO 74
76	15.8	75 TO 79
32	6.7	80 TO 84
23	4.8	85 TO 89
12	2.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

Number of computations = 424


COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (DOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
24

㉕ **Labourer**

```
ENTER LOG DATE (DD/MM/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 1111

 ENTER JOB CODE (3 CHARS) : 176
  1  26  85  1221   60   64    4    1
    6924      99616  415
 74  70  91  93  93  92  88  79  84  82  79  81  80  77  60  80
 80  77  82  77  81  79  81  84  81  79  80  73  61  66  60  76
 85  60  60  83  83  84  83  82  82  82  81  63  68  83  80  80
 81  80  79  84  83  83  83  80  64  66  80  86  84  83  84  84
 85  79  65  60  60  60  83  87  87  83  86  84  84  89  90  72
 60  60  60  82  82  80  62  62  61  60  85  87  86  85  81  63
 60  73  84  82  60  64  66  81  85  84  77  60  60  60  60  60
 62  60  73  73  61  60  60  60  60  60  60  60  60  60  60  60
 64  77  81  67  69  69  83  84  80  79  86  68  61  76  85  86
 60  63  61  69  81  79  66  70  61  69  86  71  63  63  67  77
 85  81  60  67  69  80  85  82  81  74  78  78  80  78  72  72
 76  77  70  79  79  82  79  79  84  78  82  89  91  80  79  83
 85  77  78  66  78  84  87  77  87  93  83  60  79  77  84  94
 95  92  91  95  95  97  97  95  96  94  93  90  91  91  89  81
 82  63  61  60  60  60  60  73  63  74  60  60  60  60  60  60
 60  61  60  60  60  61  64  62  61  60  60  60  66  60  60  65
 60  60  60  60  60  62  68  79  77  88  92  90  92  93  87  86
 89  83  91  94  95  95  95  94  94  94  95  96  96  96  95  93
 94  95  96  95  95  94  95  95  95  95  94  94  95  95  94  95
 96  94  94  96  96  95  96  96  96  96  95  95  95  95  93  93
 95  95  95  95  95  96  93  93  94  94  93  95  97  93  95  95
 95  95  95  94  95  95  94  94  90  77  60  63  63  74  60  62
 60  60  60  61  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  61  60  87  94  96  91  93  95  94  93  93  95  93  93
 93  86  62  60  65  94  92  92  90  94  95  95  95  95  95  94
 95  93  91  92  93  96  95  95  95  95  96  94  84  64  61  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED : 6 JUNE 1979                DATA ANALYZED : 15  AUG 1979
         LOGGER : DB-301/26                      SITE CODE : GRIND
  SERIAL NUMBER : 1221                            JOB CODE : 176
       BASELINE : 60 DB                          USER CODE : 1111
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =   99616
  TEST DURATION =    6:55: 4                  STANDBY TIME =   0:28:51

          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 415
  PERIOD =  1 MINUTES

  TIME          LOGHA                       %DOSE
  HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
    1       81.9      81.9            4.061       4.06
    2       79.6      80.9            2.967       7.05
    3       76.7      79.7            1.985       9.03
    4       86.9      82.3            8.080      17.11
    5       89.9      84.6           12.295      29.41
    6       92.7      86.7           18.231      47.65
    7       90.9      87.4           13.061      60.71
  MIN. COMP. =  60 DB                MAX. COMP. =  97 DB
  ARITHMETIC MEAN =  77 DB
  STD. DEVIATION =  13 DB
  VARIANCE =167 DB
```

Amplitude Distribution

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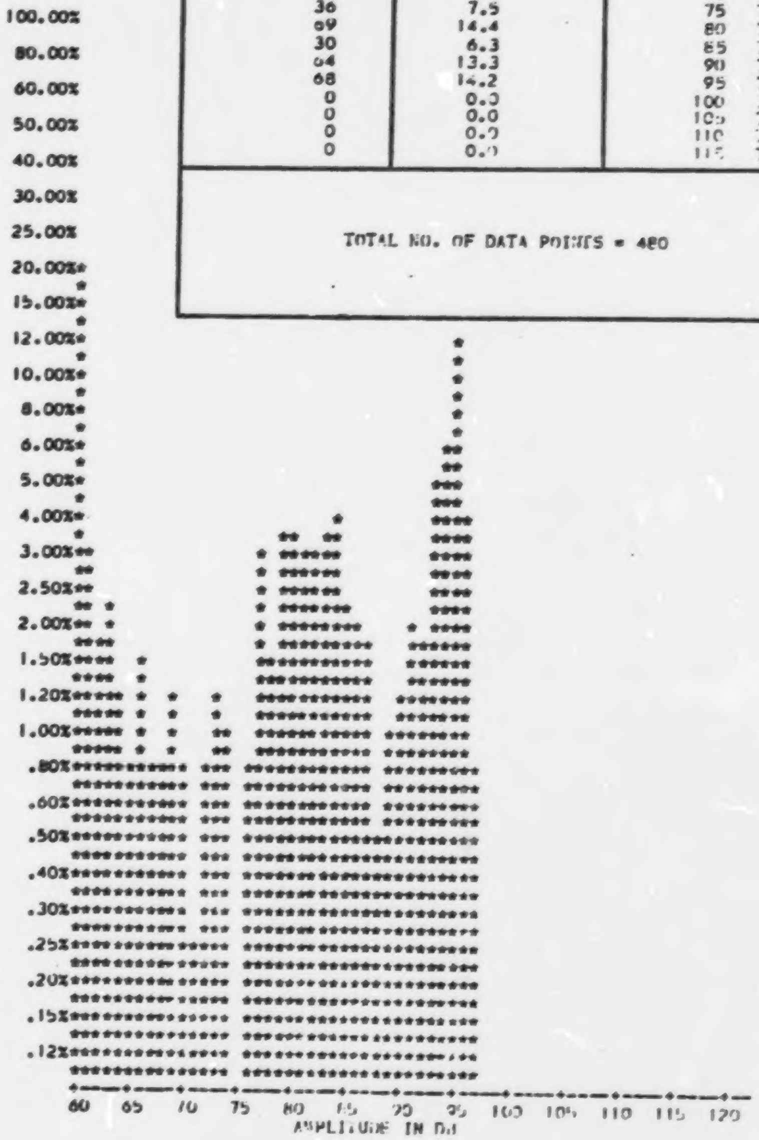
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
177	36.9	60 TO 64
20	4.2	65 TO 69
16	3.3	70 TO 74
36	7.5	75 TO 79
69	14.4	80 TO 84
30	6.3	85 TO 89
64	13.3	90 TO 94
68	14.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 415

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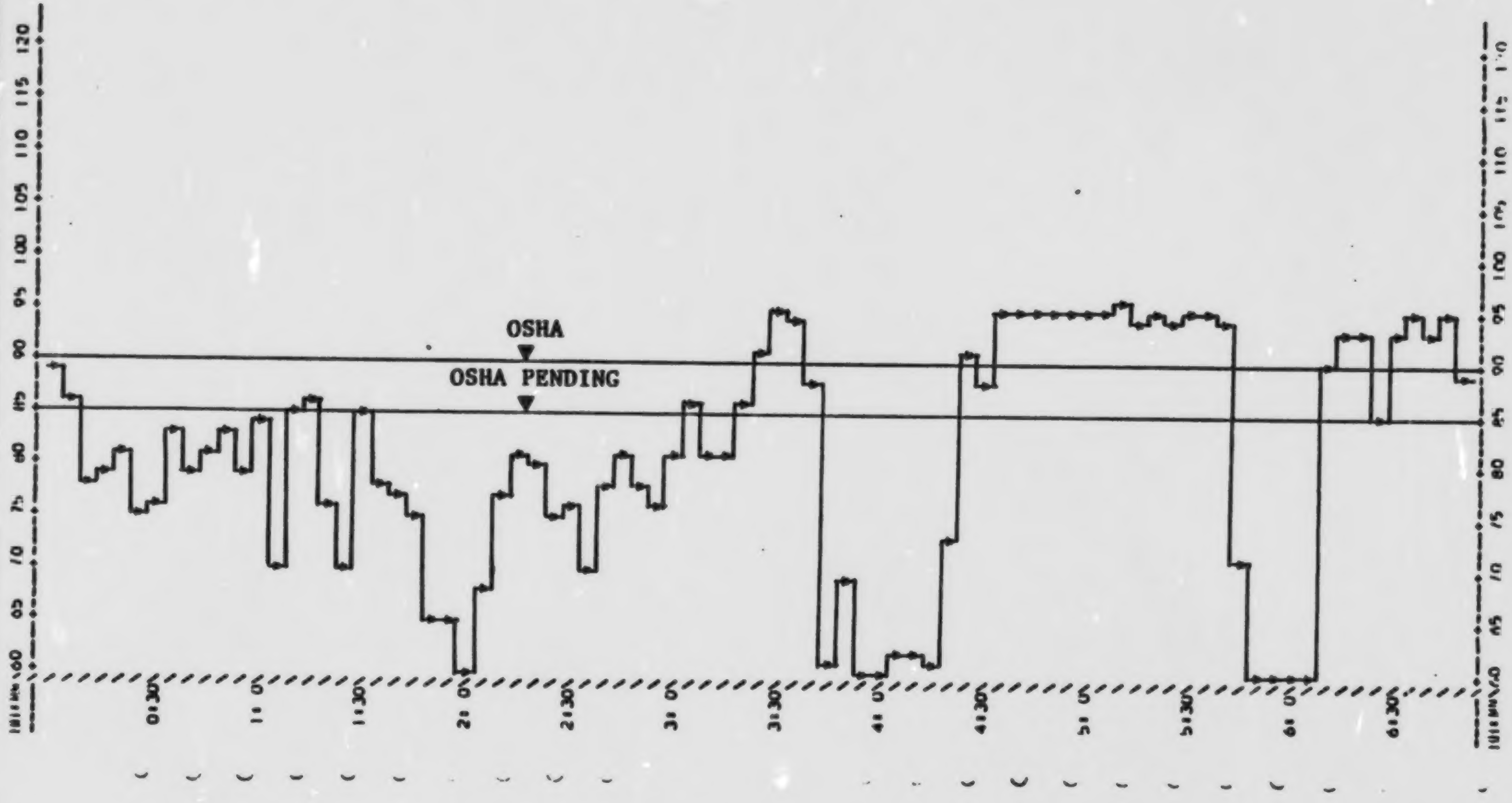
COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (LOSHA)



Leader ㉖

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ENTER LOG DATE (DD/MM/YR) : 07/06/79
ENTER SITE CODE (5 CHARS) : GRIND

ENTER USER CODE (4 CHARS) : 2540
 ENTER JOB CODE (3 CHARS) : XO1
  1  26  85  1217   60   64    4    1
   35961    104548  435
    69  63  72  82  86  63  81  84  85  71  85  91  84  60  60  62
    60  62  66  60  61  60  60  60  60  60  60  60  60  62  65  69
    62  60  60  60  60  60  62  60  68  66  60  60  60  60  70  60
    60  77  91  90  91  92  69  72  62  83  79  83  70  79  80  79
    79  79  70  60  60  82  92  92  88  60  60  72  60  46  60  65
    66  64  62  60  60  61  73  60  61  72  66  66  81  71  94  84
    77  60  63  74  75  82  87  88  71  71  72  65  60  74  73  75
    69  78  81  72  75  76  63  72  92  92  90  79  67  73  66  60
    63  64  60  60  65  60  64  71  69  69  63  74  68  61  60  60
    60  60  60  61  71  72  69  68  71  73  83  73  75  61  67  71
    67  64  62  69  64  67  70  76  61  71  66  60  76  62  64  69
    82  89  88  88  83  63  64  73  65  60  64  60  61  62  77  71
    64  64  68  73  82  89  90  9C  92  89  60  82  67  63  60  60
    64  67  60  60  67  73  80  90  92  91  94  91  60  60  63  69
    76  64  69  75  67  68  60  60  79  60  84  86  85  86  86  87
    88  88  91  60  90  89  88  80  82  76  60  69  60  60  68  62
    68  64  60  60  65  62 .65  67  60  60  60  60  68  66  61  66
    65  68  60  67  77  75  69  68  61  65  60  61  85  91  90  89
    60  60  60  60  60  60  60  60  60  60  67  65  64  60  46  60
    61  61  63  61  60  60  60  62  92  93  90  78  87  93  94  94
    93  94  95  95  92  92  92  95  90  87  92  85  74  63  72  73
    77  78  76  79  60  79  68  89  85  93  96  95  94  95  95  89
    85  70  68  71  76  76  65  75  71  81  85  88  80  83  68  71
    68  72  66  60  70  60  61  60  60  60  60  60  60  60  60  61
    62  69  60  60  60  60  66  60  61  67  60  60  67  60  61  60
    60  60  64  64  60  64  72  68  72  60  60  60  60  62  60  60
    60  60  66  85  87  71  68  67  71  60  60  60  60  64  62  67
    69  66  72  60  60  60  60  60  60  60  50  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED : 7 JUNE 1979          DATA ANALYZED : 20  AUG 1979
       LOGGER : DB-301/26                 SITE CODE : GRIND
SERIAL NUMBER : 1217                       JOB CODE : XO1
     BASELINE : 60 DB                     USER.CODE : 2540
DYNAMIC RANGE : 64 DB                     THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  104548
TEST DURATION =   7:15:37              STANDBY TIME =   2:29:50

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 435
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      77.9       77.9            2.322      2.32
   2      78.4       78.1            2.488      4.81
   3      76.6       77.6            1.948      6.76
   4      81.3       78.7            3.728     10.48
   5      77.8       78.5            2.289     12.77
   6      87.6       81.1            8.926     21.70
   7      70.8       80.2             .870     22.57
   8      71.9       80.1             .2[illegible]3     22.82
MIN. COMP. =  60 DB              MAX. COMP. =  96 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

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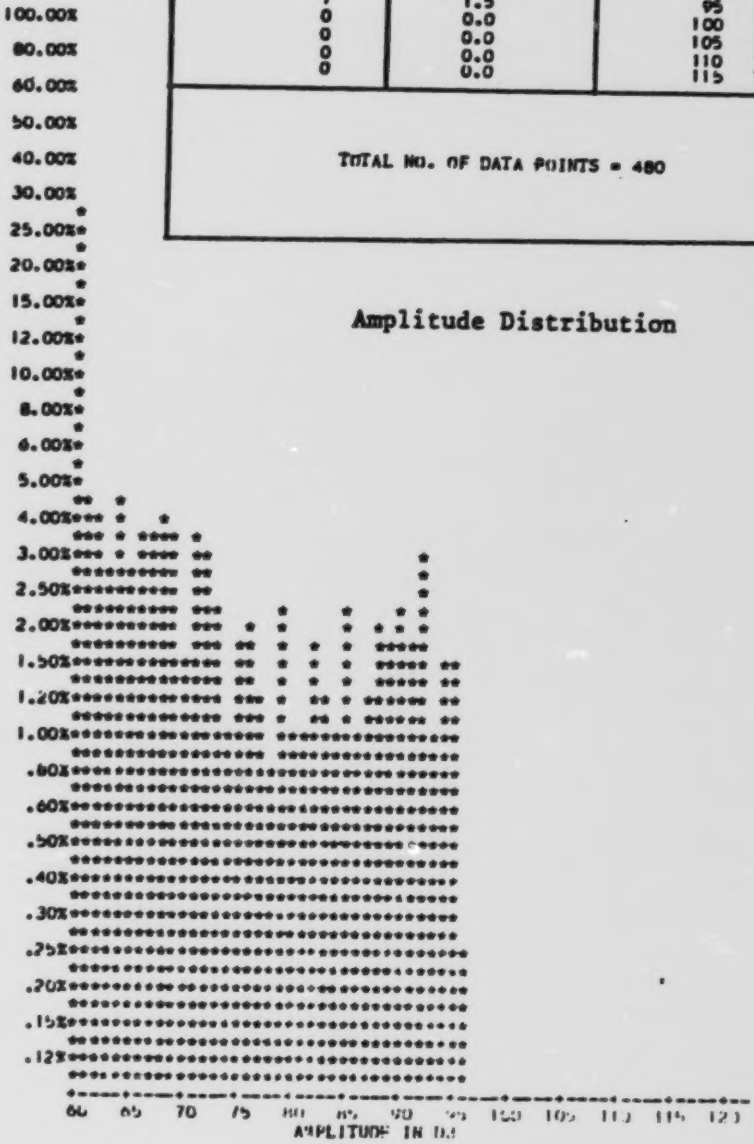
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
227	47.3	60 To 64
72	15.0	65 To 69
47	9.8	70 To 74
32	6.7	75 To 79
24	5.0	80 To 84
33	6.9	85 To 89
38	7.9	90 To 94
7	1.5	95 To 99
0	0.0	100 To 104
0	0.0	105 To 109
0	0.0	110 To 114
0	0.0	115 To 119

TOTAL NO. OF DATA POINTS = 480

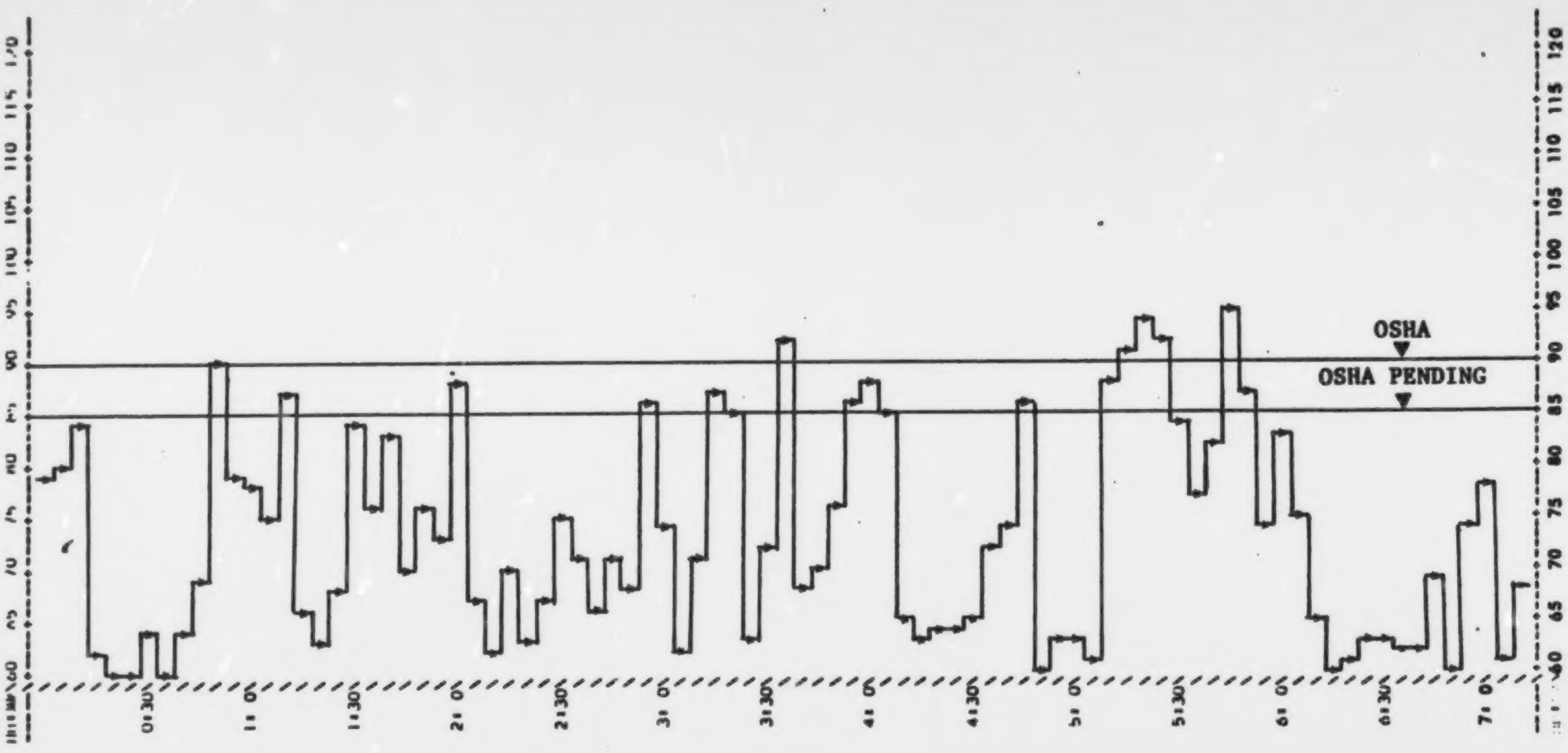
Amplitude Distribution



Number of computations = 435

COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS

AVERAGE VALUE (OSHA)



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Leader

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ENTER LOG DATE (MM/DD/YR) : 06/08/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 0540
 ENTER JOB CODE (3 CHARS) : X01
  1  26  85  1222   60   64    4    1
   25669     108372  451
  75  73  89  92  75  60  66  66  60  60  60  60  65  70  90  95
  90  95  98  97  97  95  98  97  97  96  96  97  97  96  96  95
  90  90  91  91  90  94  92  93 100  91  92  89  88  71  87  89
  88  97  96  94  90  92  90  87  60  73  60  63  60  62  60  66
  74  60  62  77  75  87  74  60  65  79  77  69  66  73  79  80
  71  78  71  74  68  69  81  78  64  78  96  98  98 100  97  98
  97  96  98  97  98  97  97  97  96  97  97  97  96  98 100  99
  98  91  84  62  76  68  63  68  73  63  68  63  63  79  70  61
  62  61  60  60  65  82  87  90  96  87  80  61  77  70  62  62
  60  66  67  62  76  60  60  70  60  60  73  70  60  60  60  60
  60  60  60  60  60  60  60  77  79  60  79  93  96  96  97  97
  99  94  82  78  91  90  91  90  91  91  90  91  89  90  90  91
  85  66  60  62  75  74  72  70  72  78  69  68  66  60  75  75
  75  75  81  64  60  75  61  81  92  93  86  66  90  90  90  60
  66  68  60  70  62  60  66  60  60  82  82  83  79  84  84  86
  93  92  93  79  76  77  65  75  73  69  87  90  92  88  87  90
  62  74  63  60  60  64  62  60  60  60  60  60  60  60  60  64
  63  60  67  63  66  62  72  60  60  60  60  63  60  61  60  61
  61  78  89  94  83  90  94  95  94  91  90  89  86  60  75  80
  71  60  68  76  76  70  74  78  89  92  91  89  91  89  89  89
  89  90  90  89  90  90  89  88  89  90  89  86  88  87  90  89
  91  90  91  93  91  87  88  88  88  88  88  92  91  89  89  89
  89  93  93  93  92  92  93  87  90  91  93  72  60  60  60  60
  61  61  60  70  60  60  63  60  60  68  63  64  70  63  65  89
  94  91  77  60  60  60  71  74  64  79  64  60  60  60  60  60
  60  60  60  74  66  81  68  63  89  77  75  66  80  81  79  69
  60  73  70  73  79  76  77  67  75  64  65  66  79  67  73  67
  80  74  60  66  61  71  63  62  61  60  71  70  68  69  72  76
  69  67  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
     DATA LOGGED : 8 JUNE 1979                    DATA ANALYZED : 20  AUG 1979
         LOGGER : 05-301/26                            SITE CODE : GRIND
  SERIAL NUMBER : 1272                                  JOB CODE : X01
       BASELINE : 60 DB                                USER CODE : 0540
  DYNAMIC RANGE : 64 DB                                THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                           TOTAL SAMPLES =  108372
  TEST DURATION =   7:31:33                         STANDBY TIME =   1:46:57

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 451
  PERIOD =  1 MINUTES

 TIME            LOSHA
 HOUR     CURRENT  CUMULATIVE               %DOSE
                                      CURRENT   CUMULATIVE
   1        91.5      91.5            15.464      15.46
   2        91.2      91.4            14.817      30.30
   3        83.6      89.6             5.171      35.47
   4        83.7      88.5             5.210      40.68
   5        83.4      87.7             5.012      45.69
   6        88.6      87.9            10.294      55.99
   7        78.1      87.1             2.407      58.40
   8        71.3      85.8              .486      58.88
 MIN. COMP. =  60 DB                MAX. COMP. = 100 DB
 ARITHMETIC MEAN =  [illegible] DB
 STD. DEVIATION =  13 DB
 VARIANCE =169 DB
```

Amplitude Distribution

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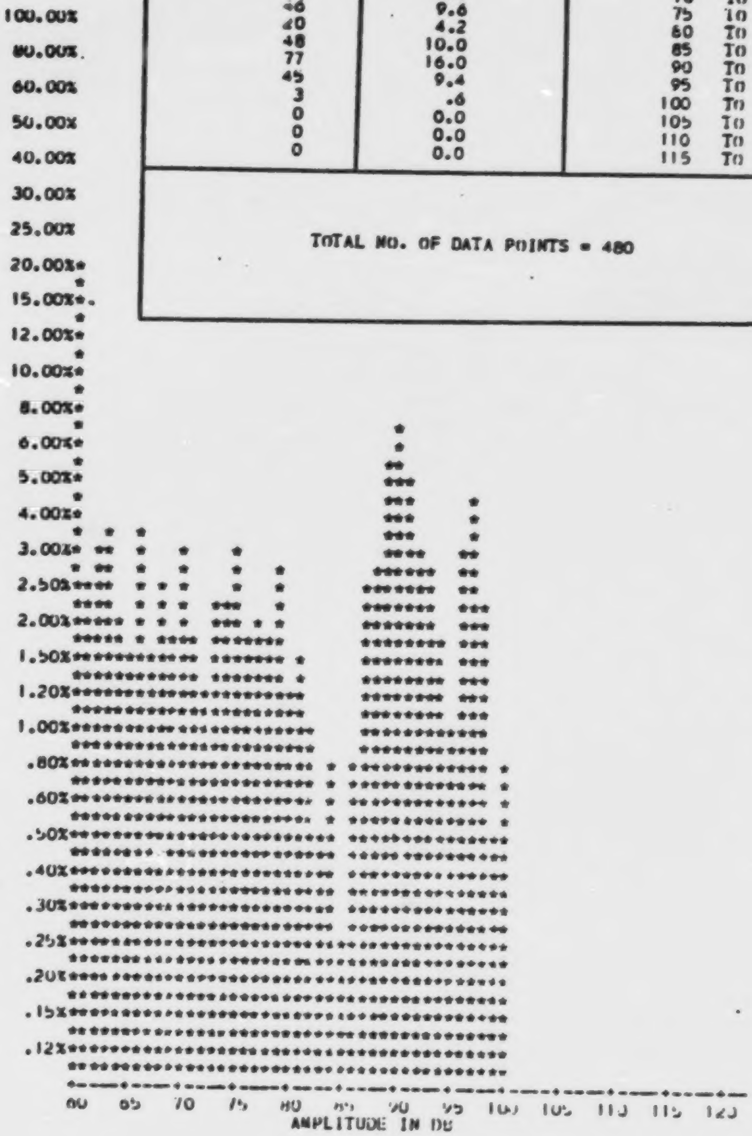
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
155	32.3	60 TO 64
44	9.2	65 TO 69
42	8.8	70 TO 74
46	9.6	75 TO 79
20	4.2	80 TO 84
48	10.0	85 TO 89
77	16.0	90 TO 94
45	9.4	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 451

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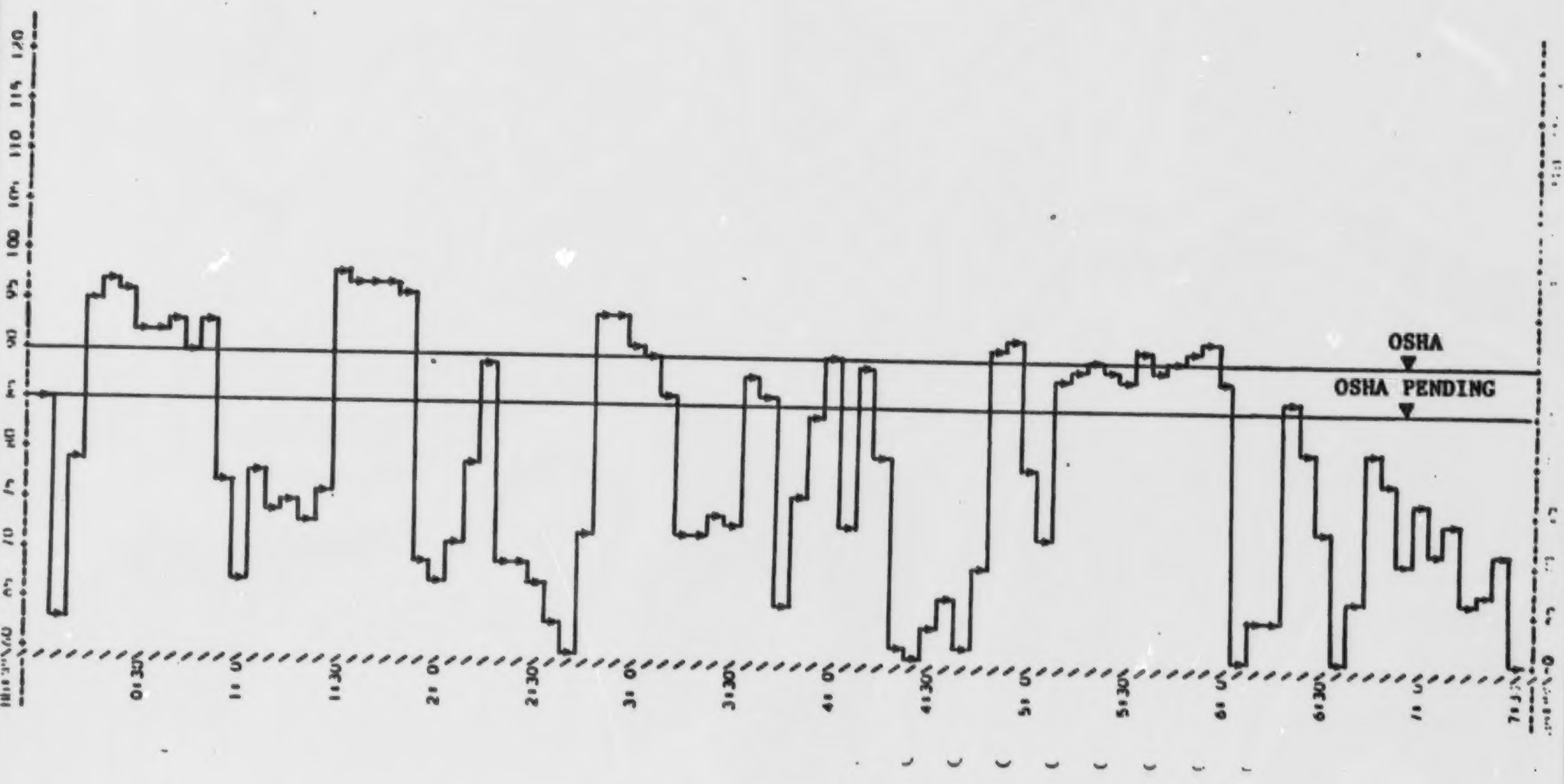
COMPRESSED TIME HISTORY
FIVE MINUTE PERIODS
AVERAGE VALUE (DBA)



Shift boss ㉘

```
ENTER LOG DATE (DD/MM/YR) : 06/06/79
ENTER SITE CODE (5 CHARS) : GRIND
ENTER USER CODE (4 CHARS) : 9555
 ENTER JOB CODE (3 CHARS) : SHB

 1  26  85  1226   60   64    4    1
  14226       95690  398
 73  70  81  88  60  60  64  60  60  60  60  60  60  64  63  60
 63  61  60  60  60  60  60  60  60  65  60  60  82  82  65  76
 65  77  83  81  88  86  91  93  95  84  70  73  72  65  60  64
 65  60  69  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  74  89  94  95  95  91  83  86  65  60  60
 60  60  60  60  60  61  66  60  60  60  60  60  60  60  60  66
 60  60  62  60  60  64  61  64  60  60  60  60  80  87  87  86
 86  87  90  92  91  90  90  91  91  92  91  91  91  90  94  94
 92  94  93  93  92  91  92  91  91  91  94  95  95  96  95  95
 93  91  92  91  89  87  90  90  86  60  63  60  92  90  88  89
 92  93  92  93  93  93  90  88  86  78  64  60  60  62  60  60
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 60  62  80  60  76  63  60  60  60  60  60  60  60  65  64  60
 61  64  60  60  60  60  60  60  60  60  60  60  60  60  63  60
 60  68  60  60  60  61  60  60  60  60  60  60  60  60  60  60
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 86  87  86  87  87  89  88  87  88  88  89  88  88  90  99  96
 92  77  80  91  91  90  91  93  94  94  95  94  94  94  93  93
 94  94  93  93  92  91  92  91  89  60  74  62  89  93  88  86
 88  87  83  86  84  92  88  60  66  87  94  85  60  60  60  60
 60  83  79  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  86  60  90  91  65  60  62  65  60  60  69  60
 60  60  85  79  60  60  60  60  60  87  93  93  93  82  60  60
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%EOF
```

```
   DATA LOGGED : 6 JUNE 1979          DATA ANALYZED : 15  AUG 1979
        LOGGER : DB-301/26                SITE CODE : GRIND
 SERIAL NUMBER : 1226                      JOB CODE : SHB
      BASELINE : 60 DB                    USER CODE : 9555
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =   95690
 TEST DURATION =   6:38:42             STANDBY TIME =   0:59:16

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 398
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1       77.3       77.3             2.159      2.16
   2       81.9       80.0             4.069      6.23
   3       90.0       85.0            12.583     18.81
   4       61.5       83.0              .242     19.05
   5       76.0       82.1             1.945     21.00
   6       89.2       83.9            11.197     32.20
   7       80.0       83.6             1.977     34.17
MIN. COMP. =  60 DB                 MAX. COMP. =  99 DB
ARITHMETIC MEAN =  71 DB
STD. DEVIATION =  14 DB
VARIANCE =196 DB
```

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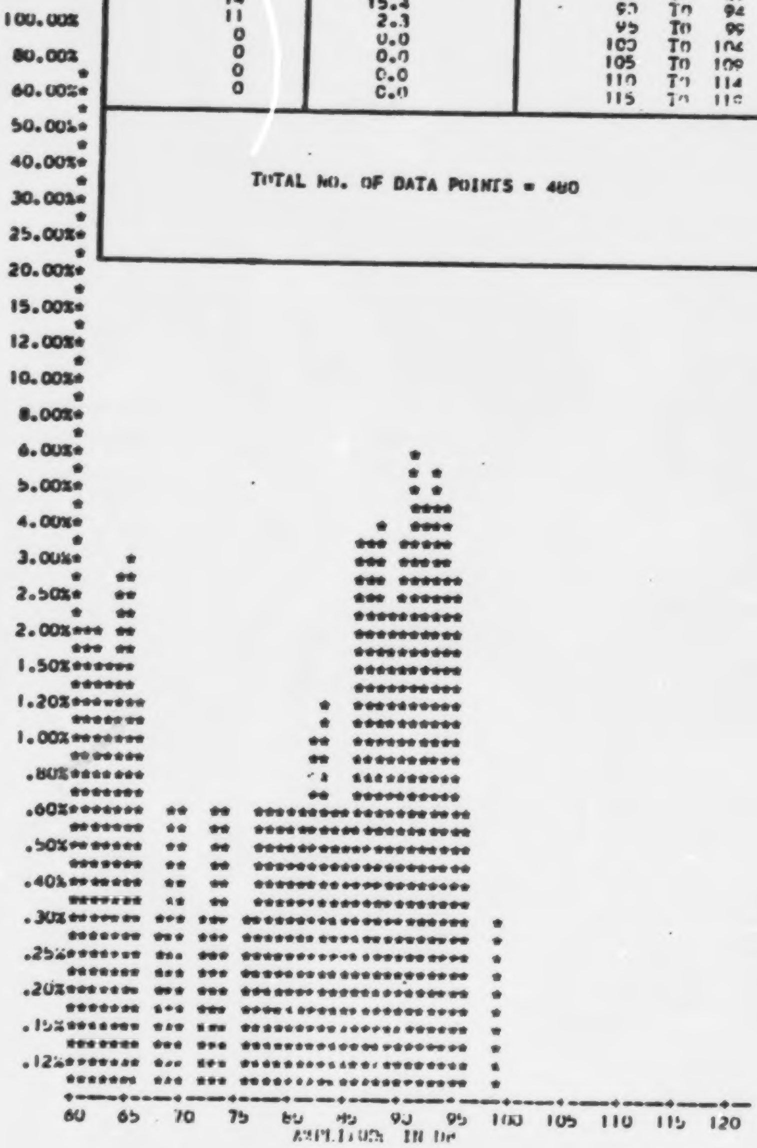
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PER CENT	
309	64.4	60 TO 64
16	3.3	65 TO 69
7	1.5	70 TO 74
7	1.5	75 TO 79
13	2.7	80 TO 84
43	9.0	85 TO 89
74	15.4	90 TO 94
11	2.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

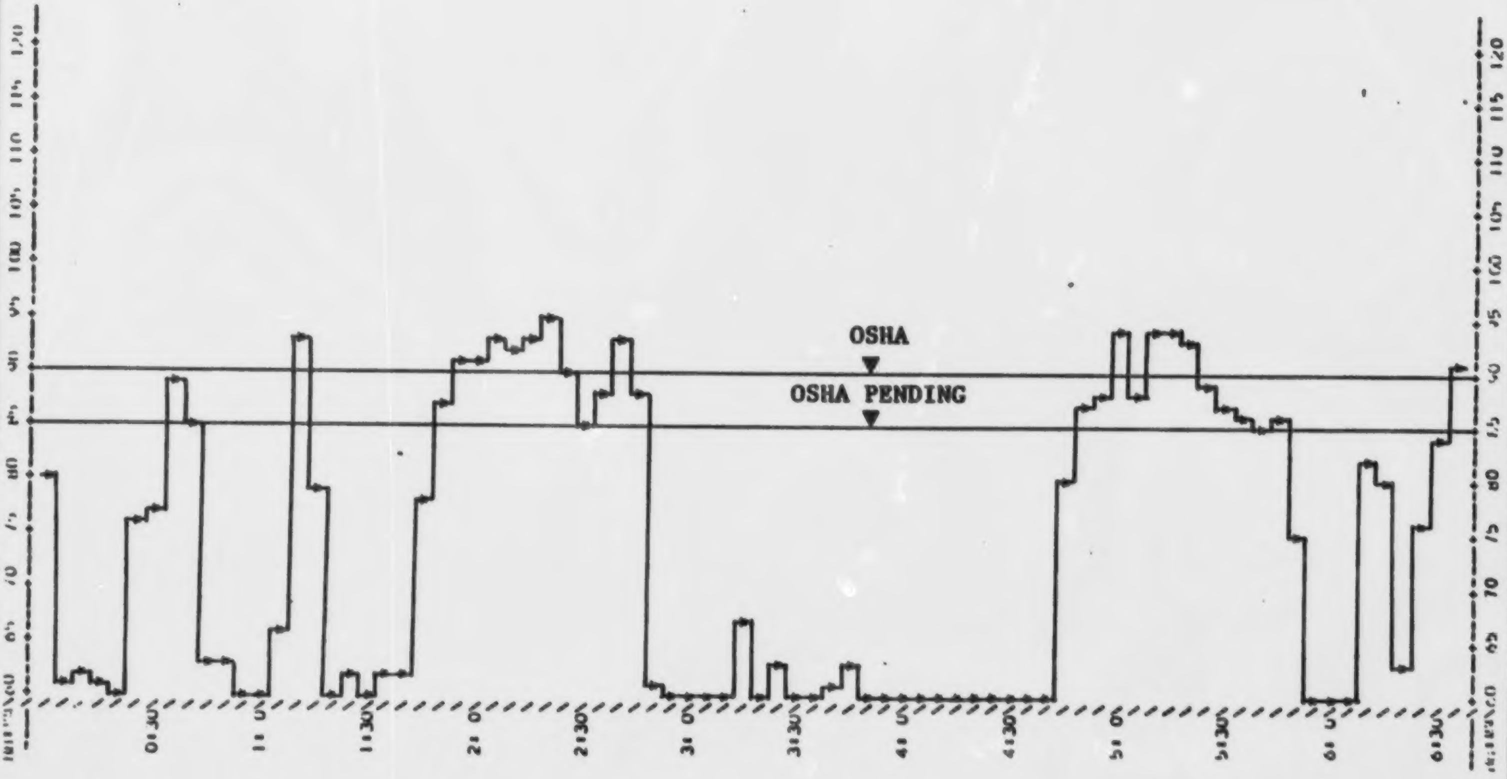
TOTAL NO. OF DATA POINTS = 480



Number of computations = 398

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



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VOL. 4 A Report 4

81-52 M. Savich

Noise measurement on surface maintenance locations at Denison Mines Ltd in Elliot Lake

1981

MESURE DU BRUIT AUX INSTALLATIONS D'ENTRETIEN EN SURFACE DE LA DENISON MINES LTD. À ELLIOT LAKE

M.U. Savich*

RÉSUMÉ

Des mesures de l'indice d'exposition au bruit (IEB) ont été effectuées à toutes les installations d'entretien :

1) puits n° 2 - atelier de mécanique; L_{OSHA} = 75,3 ± 3,6 dBA
2) puits n° 1 - atelier de soudage; L_{OSHA} = 78,2 ± 3,5 dBA
3) puits n° 2 (chambre de treuil) - mécaniciens; L_{OSHA} = 79,5 ± 3,2 dBA
4) atelier de menuiserie; L_{OSHA} = 73,7 ± 5,1 dBA
5) atelier des tuyauteurs-tubistes; L_{OSHA} = 72,8 ± 5,9 dBA
6) garage; L_{OSHA} = 69,9 ± 4,8 dBA
7) matériel lourd; L_{OSHA} = 87,3 ± 2,8 dBA
8) atelier d'électricité; L_{OSHA} = 79,3 ± 6,4 dBA

L'analyse des mesures de l'IEB a montré que seuls les opérateurs de matériel lourd sont exposés à des niveaux de bruit élevés. Pour toutes les catégories de travailleurs, l'exposition n'a pas dépassé le niveau de bruit admissible.

---

*Chercheur scientifique, Laboratoire d'Elliot Lake, Laboratoires de recherche minière, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENT ON SURFACE MAINTENANCE LOCATIONS AT DENISON MINES LTD. IN ELLIOT LAKE

by

M.U. Savich*

ABSTRACT

Measurements of Noise Exposure Index (NEI) were conducted at all maintenance locations:

1) #2 shaft - machine shop; $L_{OSHA} = 75.3 \pm 3.6$ dBA
2) #1 shaft - welding shop; $L_{OSHA} = 78.2 \pm 3.5$ dBA
3) #2 shaft (hoist room) - Mechanics; $L_{OSHA} = 79.5 \pm 3.2$ dBA
4) Carpentry shop; $L_{OSHA} = 73.7 \pm 5.1$ dBA
5) Pipe fitter shop; $L_{OSHA} = 72.8 \pm 5.9$ dBA
6) Garage; $L_{OSHA} = 69.9 \pm 4.8$ dBA
7) Heavy equipment; $L_{OSHA} = 87.3 \pm 2.8$ dBA
8) Electrical shop; $L_{OSHA} = 79.3 \pm 6.4$ dBA

The analysis of measurement of NEI showed that only heavy equipment operators are exposed to high levels of noise. Exposure of all categories of workers did not exceed the permissible noise level.

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* Reserach Scientist, Elliot Lake Laboratory, Mining Research Laboratories, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario.

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PIPE FITTER SHOP 5

GARAGE 6

HEAVY EQUIPMENT 6

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CONCLUSIONS AND RECOMMENDATIONS 6

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TABLE

1. Results of LOSHA and time during work day 2

INTRODUCTION

Measurements of Noise Exposure Index (NEI) on surface were conducted at all maintenance locations:

1) No. 2 shaft - machine shop;
2) No. 1 shaft - welding shop;
3) No. 2 shaft (hoist room) - mechanics;
4) Carpentry shop;
5) Pipe fitter shop;
6) Garage;
7) Heavy equipment (at garage); and
8) No. 2 shaft - electrical shop.

The measurements have shown that the level of noise is low. At almost all locations the labour force was complaining: "Today there is no noise, and you are taking measurements". The workers in the carpentry shop (circular saw) and garage (body repair) had especially sharp criticism.

NO. 2 SHAFT - MACHINE SHOP

The level of noise in the machine shop is low and L_{OSHA} is 75.3 dBA (Table 1). The working time is shortened by 12 min. This means that the actual level of noise (L_{OSHA}) is even lower.

In Appendix 1 full information of noise exposure is given for each worker (Nos. 1 to 3).

NO. 1 SHAFT - WELDING SHOP

In the welding shop L_{OSHA} is 78.2 dBA (Table 1). The workers in this shop are highly disciplined. Blacksmiths were not tested on noise impact, but this should be done. Appendix 1 gives full information of noise (Nos. 14 to 26).

Table 1 - Results of L_{OSHA} and time during work day

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
#2 Shaft - Machine Shop																		
1	2440	001	Mechanic	411	73	375	47	24	17	12	3	0	0	0	2	0	0	480
2	2430	001	Mechanic	412	74.6	345	39	28	29	20	13	5	0	0	1	0	0	480
3	0775	015	Mechanic	420	73.5	279	50	50	40	46	15	0	0	0	0	0	0	480
4	2305	005	Mechanic	405	68.4	399	31	21	11	12	3	2	1	0	0	0	0	480
5	1756	001	Mechanic	412	77.1	350	48	28	12	12	18	1	7	4	0	0	0	480
6	8259	001	Mechanic	415	81.4	131	29	47	76	94	83	20	0	0	0	0	0	480
7	6968	031	Mechanic	411	79.4	146	55	63	80	71	55	9	1	0	0	0	0	480
8	0806	001	Mechanic	379	73.9	440	8	7	5	8	10	0	1	0	0	1	0	480
9	0444	001	Mechanic	411	74.2	315	60	49	27	7	9	8	5	0	0	0	0	480
10	0410	005	Mechanic	417	71.3	329	53	41	25	21	8	2	1	0	0	0	0	480
11	1280	005	Mechanic	413	79.6	187	63	53	64	59	29	19	5	1	0	0	0	480
12	4959	031	Mechanic	389	75.1	313	67	46	31	11	0	3	7	2	0	0	0	480
13	8389	004	Welder	409	76.9	228	60	54	56	43	27	11	1	0	0	0	0	480
			Mean	408	75.26	295.15	46.92	39.31	36.38	32.00	21.00	6.15	2.23	0.54	0.23	0.08	0	480
			Std.Dev.	11.44	3.58	96.24	16.50	16.20	25.06	28,16	23.69	6.94	2.71	1.20	0.60	0.28	0	480
#1 Shaft - Welding Shop																		
14	6005	004	Welder	480	78.2	173	80	53	72	61	29	7	2	3	0	0	0	480
15	0620	014	Welder	468	77.5	193	65	52	55	59	45	9	2	0	0	0	0	480
16	0619	001	Welder	474	71.2	277	77	68	33	17	4	2	2	0	0	0	0	480
17	1242	004	Welder	480	78.9	88	49	78	98	102	58	7	0	0	0	0	0	480
18	6855	004	Welder	480	72.8	236	69	63	59	40	11	2	0	0	0	0	0	480
19	2306	004	Welder	480	81.6	98	51	38	73	98	89	33	0	0	0	0	0	480
20	1146	004	Welder	475	81.7	78	35	50	99	117	64	37	0	0	0	0	0	480
21	2529	004	Welder	480	78.8	150	54	66	70	82	50	4	2	2	0	0	0	480
22	0840	021	Welder	480	84.7	90	34	21	30	46	209	43	6	1	0	0	0	480
23	6643	036	Blacksmith	477	78.9	112	52	80	106	83	34	6	7	0	0	0	0	480
24	5215	006	Blacksmith	470	77.2	172	72	76	67	36	45	12	0	0	0	0	0	480
25	2321	X01	Leader	470	78.2	161	73	90	74	38	20	16	7	1	0	0	0	480
26	9627	004	Foreman	480	77.1	130	65	96	67	82	36	4	0	0	0	0	0	480
			Mean	476.54	78.22	150.62	59.69	63.92	69.46	66.23	53.38	14.00	2.15	0.54	0	0	0	480
			Std.Dev.	4.43	3.51	60.33	15.10	21.02	22.83	30.22	51.96	14.18	2.73	0.97	0	0	0	480

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
#2 Shaft (hoist room) - Mechanics																		
27	1265	001	Mechanic	480	78.8	107	79	97	69	64	44	17	3	0	0	0	0	480
28	0832	032	Mechanic	480	75.6	129	87	94	86	64	16	2	2	0	0	0	0	480
29	1135	018	Mechanic	480	81.7	131	73	76	80	32	32	14	17	5	0	0	0	480
30	0519	038	Mechanic	480	78.6	127	82	90	70	60	41	6	0	4	0	0	0	480
31	5380	001	Mechanic	480	85.4	71	34	58	53	41	72	149	2	0	0	0	0	480
32	1831	001	Mechanic	480	76.9	98	108	118	86	53	5	3	8	1	0	0	0	480
33	0552	X10	Mechanic	480	79.8	160	54	60	69	62	49	24	1	1	0	0	0	480
			Mean	480	79.34	117.57	73.86	84.71	73.29	56.57	37.00	30.71	4.71	1.57	0	0	0	480
			Std.Dev.	0	3.24	28.47	23.86	21.50	11.74	8.44	22.08	52.77	5.99	2.07	0	0	0	480
Surface - Carpentry Shop																		
34	6802	060	Carpenter	465	79.9	262	30	29	6	11	100	21	1	0	0	0	0	480
35	6438	060	Carpenter	473	74	274	74	44	35	21	20	12	0	0	0	0	0	480
36	6729	080	Carpenter*	480	62.9	439	10	20	8	2	1	0	0	0	0	0	0	480
37	4104	080	Carpenter	469	77.9	358	39	17	3	11	6	39	2	5	0	0	0	480
38	6802	080	Carpenter	478	69.8	366	45	28	23	10	5	1	2	0	0	0	0	480
39	0641	060	Carpenter	480	78.3	234	38	49	49	55	41	9	2	3	0	0	0	480
40	6438	060	Carpenter	467	71.5	196	66	41	42	24	7	4	0	0	0	0	0	480
41	6294	094	Carpenter	480	72	236	77	70	55	33	7	2	0	0	0	0	0	480
42	7158	060	Carpenter	480	82.1	93	13	9	6	177	182	0	0	0	0	0	0	480
43	0053	080	Carpenter	480	69.5	309	64	30	36	14	6	1	0	0	0	0	0	480
44	0230	084	Painter	459	66.7	379	46	30	10	12	3	0	0	0	0	0	0	480
45	0576	296	Painter	477	69.2	346	31	34	21	21	6	1	0	0	0	0	0	480
			Mean	473	73.72	286.64	51.18	36.45	26.00	35.36	34.82	8.18	0.64	0.73	0	0	0	480
			Std.Dev.	7.39	5.08	82.24	18.49	16.88	18.51	48.81	56.67	12.14	0.92	1.68	0	0	0	480
Surface - Pipe Fitter Shop																		
46	0741	081	Pipe fitter	480	75.8	215	79	35	43	69	34	5	0	0	0	0	0	480
47	1659	007	Pipe fitter	480	68.5	324	62	49	31	10	3	1	0	0	0	0	0	480
48	0779	X61	Pipe fitter	480	80.8	161	37	30	22	151	59	15	5	0	0	0	0	480
49	0779	X61	Pipe fitter	447	72.7	302	60	41	31	27	15	3	1	0	0	0	0	480
50	0741	081	Pipe fitter	446	66	213	81	35	43	69	34	5	0	0	0	0	0	480
			Mean	466.60	72.76	243.00	63.80	38.00	34.00	65.20	29.00	5.80	1.20	0	0	0	0	480
			Std.Dev.	18.35	5.87	67.92	17.77	7.28	9.00	54.34	21.34	5.40	2.17	0	0	0	0	480

* Not estimated

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
Surface - Garage																		
51	0645	012	Mechanic	441	68	372	46	23	24	6	8	1	0	0	0	0	0	480
52	1793	002	Mechanic	437	66.7	393	43	20	11	7	5	1	0	0	0	0	0	480
53	0295	002	Mechanic	442	72.1	365	38	26	15	16	10	9	1	0	0	0	0	480
54	0645	012	Mechanic	459	72.9	316	54	36	20	32	15	6	1	0	0	0	0	480
55	0766	044	Welder	397	71.8	284	69	62	31	21	11	2	0	0	0	0	0	480
56	0575	004	Welder	448	61.9	452	16	7	3	2	0	0	0	0	0	0	0	480
57	0691	HLP	Helper	469	78.1	157	59	74	65	82	32	9	0	2	0	0	0	480
58	0606	144	Labourer	480	72.9	203	111	84	51	14	12	3	2	0	0	0	0	480
59	0506	144	Labourer	480	70.6	296	78	58	26	13	7	0	1	1	0	0	0	480
60	2341	X02	Mech.Leader	464	64	210	85	94	58	18	6	6	3	0	0	0	0	480
			Mean	451.70	69.90	304.80	59.90	48.40	30.40	21.10	10.60	3.70	0.80	0.30	0	0	0	480
			Std.Dev.	24.80	4.79	93.94	27.02	30.00	20.86	23.02	8.59	3.53	1.03	0.67	0	0	0	480
Surface - Heavy Equipment (Garage)																		
61	0054	141	Euclid Driver	480	85.9	87	11	15	30	76	157	103	1	0	0	0	0	480
62	0749	129	Boom Truck Driver	474	85.4	135	48	53	49	56	73	36	11	19	0	0	0	480
63	0331	120	Heavy Equip Operator	480	90.5	34	15	14	15	19	33	342	8	0	0	0	0	480
			Mean	478.00	87.27	85.33	24.67	27.33	31.33	50.33	87.67	160.33	6.67	6.33	0	0	0	480
			Std.Dev.	3.46	2.81	50.52	20.31	22.23	17.04	28.92	63.29	160.86	5.13	10.97	0	0	0	480
#2 Shaft - Electrical Shop																		
64	0223	013	Electrician*	390	89.0	266	42	27	26	23	26	12	6	52	0	0	0	480
65	0758	003	Electrician	480	72.2	266	85	50	35	24	17	3	0	0	0	0	0	480
66	0967	003	Electrician	480	86.6	143	49	67	86	47	20	22	16	24	6	0	0	480
67	0966	013	Electrician	480	85.4	140	31	36	31	45	87	89	19	2	0	0	0	480
68	0288	003	Electrician	480	74.6	254	71	53	33	49	15	1	2	2	0	0	0	480
69	0272	003	Electrician	480	81.0	115	69	65	52	57	76	41	5	0	0	0	0	480
70	0037	X03	Electrician	480	74.4	183	86	87	65	37	18	3	1	0	0	0	0	480
71	0002	X03	Electrician	480	74.3	290	41	41	46	40	13	7	2	0	0	0	0	480
72	0163	003	Electrician	480	83.8	235	55	55	43	18	24	11	27	10	2	0	0	480
73	0151	003	Electrician	480	88.2	116	44	34	23	61	78	34	84	6	0	0	0	480
74	9591	X03	Electrician	480	72.0	254	104	63	33	14	3	8	1	0	0	0	0	480
			Mean	480	79.25	199.60	63.50	55.10	44.70	39.20	35.10	21.90	15.70	4.40	0.80	0	0	480
			Std.Dev.	0	6.39	67.44	23.38	16.19	18.86	16.00	31.80	27.28	25.76	7.65	1.93	0	0	480

* Not estimated

Time history graphs show intensive work movement and variable noise level (L_{OSHA}). No. 22 Welder is an exception to this rule. It is not clear how he was exposed to greater noise than his co-workers since all worked in the same vicinity.

NO. 2 SHAFT (HOIST ROOM) - MECHANICS

Mechanics of this unit work on the surface of the whole mine according to need. In one case the level of noise exceeded 85 dBA. Full information of noise data is in Appendix 1 (Nos. 27 to 33). The time history graph shows variable levels of noise confirming intensive work movement.

CARPENTRY SHOP

The workers in the carpentry shop work according to need on the whole surface area. Because of this noise is lower and L_{OSHA} is 73.7 dBA. Carpenter No. 36 left his dosimeter in the bunkhouse and forgot to return it after work. This measurement has no value. Carpenter No. 42 (see time history graph) worked in an area of steady noise for 6 hours. Movement during work was not intensive. This test is also questionable, but was taken into account because of small variation in the noise level from 4.30 to 8.00. Carpenter No. 37 worked with a circular saw. Because of this he has distinct maximums from 1.00 to 1.30 and from 5.20 to 6.15 (see time history graph). Detailed information of carpentry shop noise is found in Appendix 1 (Nos. 34 to 45).

PIPE FITTER SHOP

Noise level is low and L_{OSHA} is 72.8 dBA (Table 1). Detailed data are given in Appendix 1 from Nos. 46 to 50.

GARAGE

Full information of noise and noise exposure index is given in Appendix 1 (Nos. 51 to 60). Average L_{OSHA} value is low, 69.9 dBA. Greater noise is achieved while body work is being done, however, this was not measured here.

HEAVY EQUIPMENT

Heavy equipment operator No. 63 was working on the dam and thus was overexposed (L_{OSHA}) (Table 1). The other two drivers worked on transporting the ore from shaft No. 1 to shaft No. 2. The time history graph of truck driver No. 61 is a classic example of how the truck works. Cycles, the time taken for lunch and starting time of work can be precisely counted (Appendix 1).

NO. 2 SHAFT - ELECTRICAL SHOP

The measurements of NEI in the electrical shop allow the division of electricians into two groups (Table 1):

1) $L_{OSHA} < 80$ dBA: Nos. 65, 68, 70, 71, 74; and
2) $L_{OSHA} > 80$ dBA: Nos. 64, 66, 67, 81, 72, 73.

The first group of electricians worked in the shop, and the second in the plant. Comparison of the time history graphs shows which electricians worked together and when they did so (Appendix 1). The full information system of measurement has the advantage of providing complete control of environment and productivity.

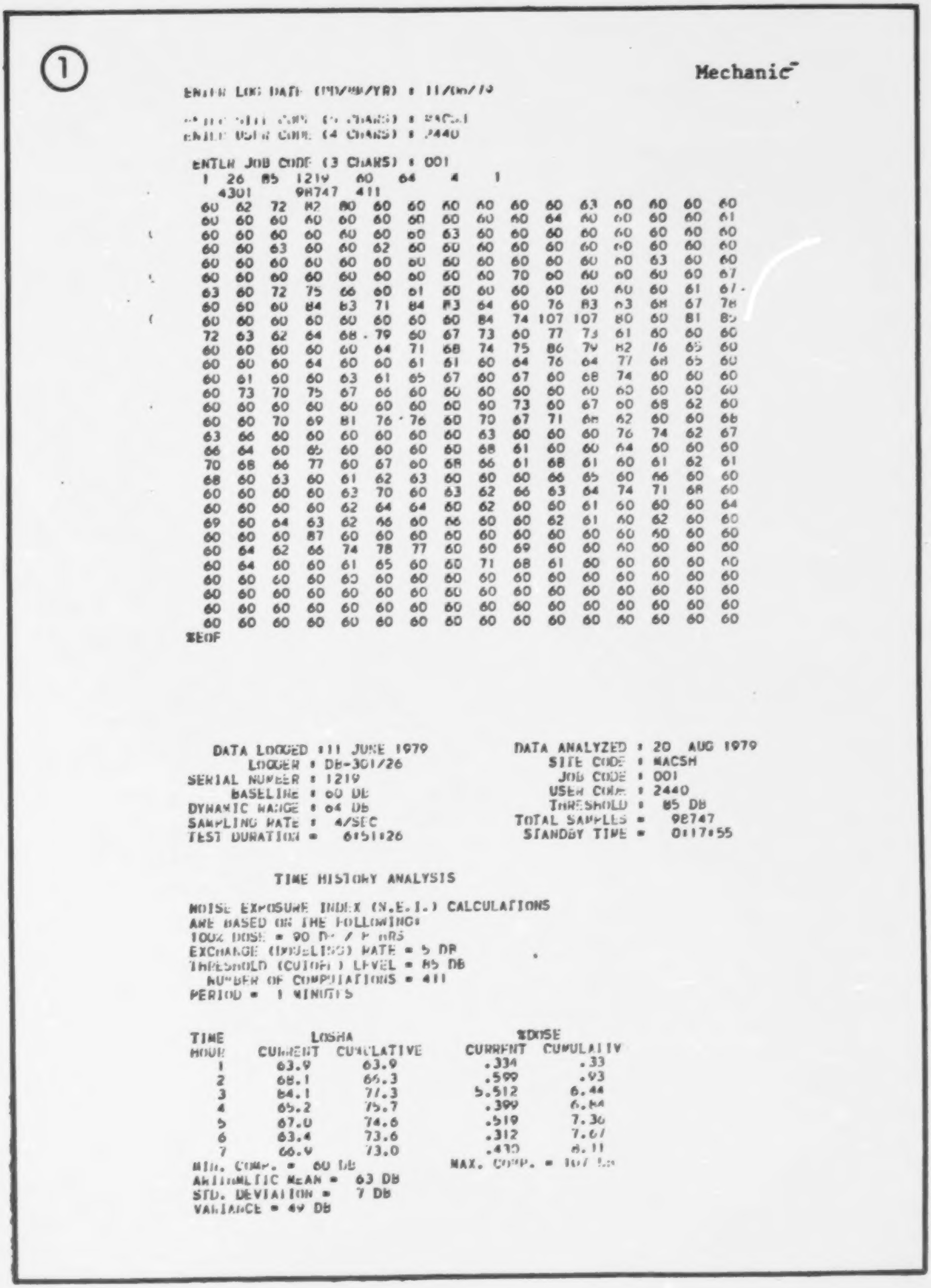
CONCLUSIONS AND RECOMMENDATIONS

The analysis of measurement of NEI for all surface maintenance showed that only heavy equipment operators are exposed to high levels of noise.

Exposure of other categories of workers did not exceed the permissible level. The time history graphs show that the workers from other categories are exposed to the highest levels of noise, but only for short intervals of time. Preventive protection should be practised if noise level exceeds 80 dBA.

APPENDIX 1

MEASUREMENT OF NOISE EXPOSURE INDEX ON SURFACE MAINTENANCE LOCATIONS WITH FULL INFORMATION: L_{OSHA} (CURRENT AND CUMULATIVE); PERCENT DOSE (CURRENT AND CUMULATIVE); ARITHMETIC MEAN; STANDARD DEVIATION; AMPLITUDE DISTRIBUTION (GRAPHICAL AND NUMERICAL); AND TIME HISTORY (GRAPHICAL).



①

Mechanic

```
ENTER LOG DATE (MO/DA/YR) : 11/06/79

ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 2440

 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1219   60   64    4    1
   4301      98747  411
  60  62  72  82  80  60  60  60  60  60  60  63  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  64  60  60  60  60  61
  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60  60
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  63  60  72  75  66  60  61  60  60  60  60  60  60  60  61  67
  60  60  60  84  63  71  84  83  64  60  76  83  63  68  67  78
  60  60  60  60  60  60  60  60  84  74 107 107  80  60  81  85
  72  63  62  64  68  79  60  67  73  60  77  73  61  60  60  60
  60  60  60  60  60  64  71  68  74  75  86  79  82  76  65  60
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  60  61  60  60  63  61  65  67  60  67  60  68  74  60  60  60
  60  73  70  75  67  66  60  60  60  60  60  60  60  60  60  60
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  60  60  70  69  81  76  76  60  70  67  71  68  62  60  60  66
  63  66  60  60  60  60  60  60  63  60  60  60  76  74  62  67
  66  64  60  65  60  60  60  60  68  61  60  60  64  60  60  60
  70  68  66  77  60  67  60  68  66  61  68  61  60  61  62  61
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  60  60  60  87  60  60  60  60  60  60  60  60  60  60  60  60
  60  64  62  66  74  78  77  60  60  69  60  60  60  60  60  60
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  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




    DATA LOGGED :11 JUNE 1979          DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                SITE CODE : MACSH
  SERIAL NUMBER : 1219                      JOB CODE : 001
       BASELINE : 60 DB                    USER CODE : 2440
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC              TOTAL SAMPLES =   98747
  TEST DURATION =    6:51:26           STANDBY TIME =   0:17:55

           TIME HISTORY ANALYSIS

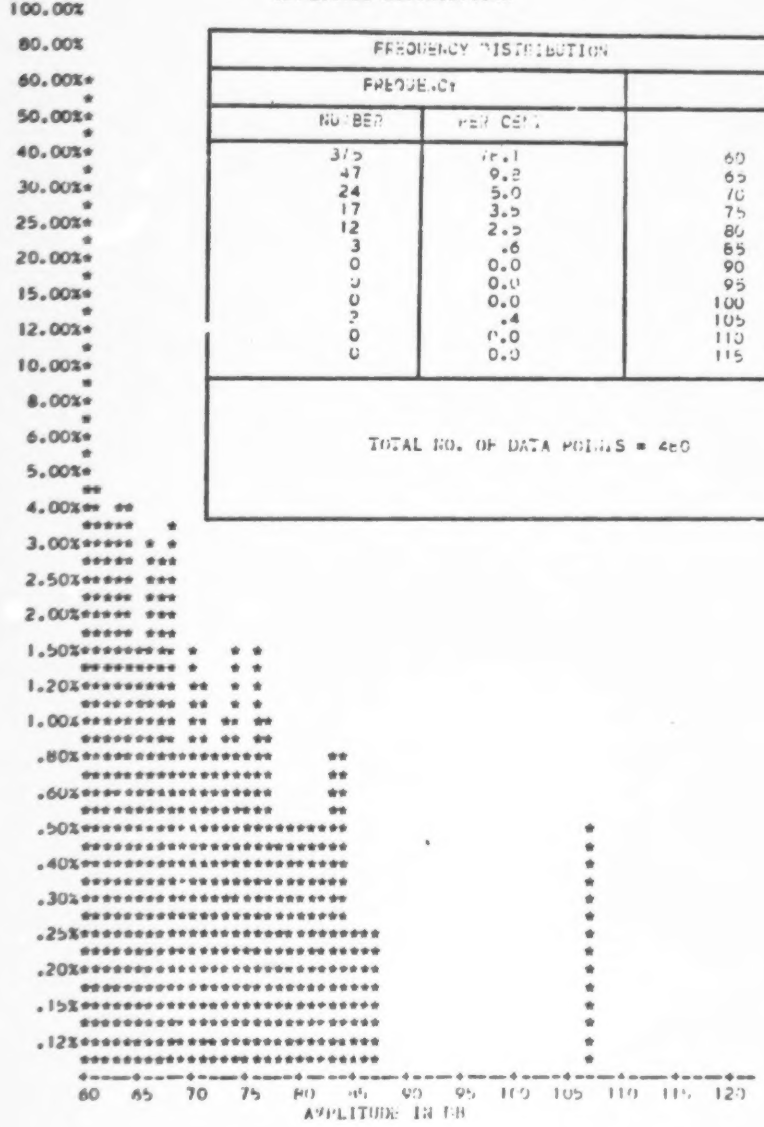
  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 411
  PERIOD =  1 MINUTES

  TIME         LOSHA                        %DOSE
  HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIV
     1       63.9      63.9              .334       .33
     2       68.1      66.3              .599       .93
     3       64.1      77.3             5.512      6.44
     4       65.2      75.7              .399      6.84
     5       67.0      74.6              .519      7.36
     6       63.4      73.6              .312      7.67
     7       66.9      73.0              .439      8.11
  MIN. COMP. =  60 DB              MAX. COMP. = 107 DB
  ARITHMETIC MEAN =  63 DB
  STD. DEVIATION =   7 DB
  VARIANCE = 49 DB
```

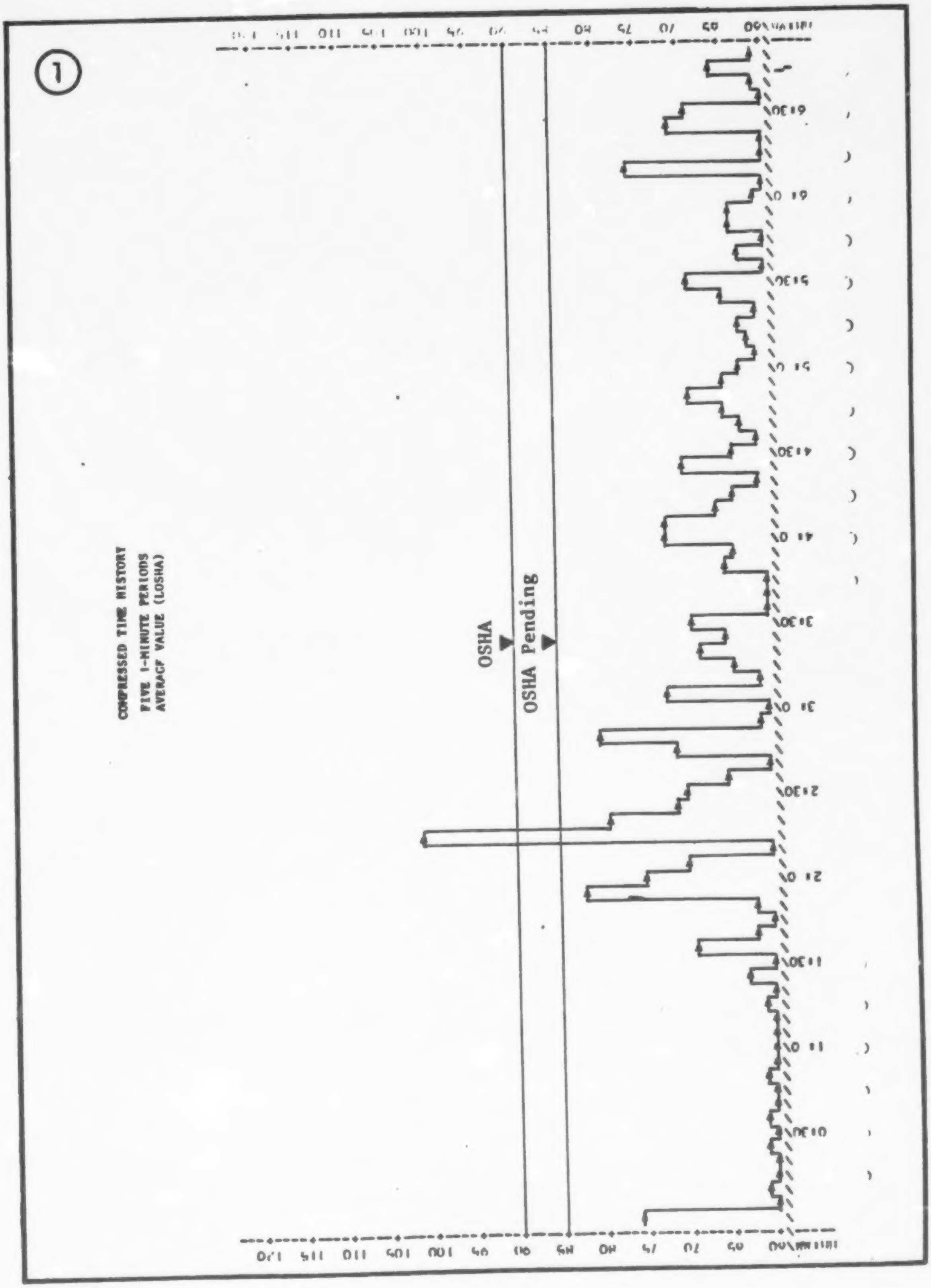
①

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
375	78.1	60 TO 64
47	9.2	65 TO 69
24	5.0	70 TO 74
17	3.5	75 TO 79
12	2.5	80 TO 84
3	.6	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
2	.4	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		



Number of computations = 411


①
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
dBA
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11:0
11:30
12:0
12:30
13:0
13:30
14:0
14:30
15:0
15:30
16:0
16:30

Mechanic - ②

```
ENTER LOG DATE (DD/MM/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 2430
 ENTER JOB CODE (3 CHARS) : 001

 1  26  85  1224   60   64    4    1
  6547      99038  412
 62  79  82  63  65  66  60  66  60  76  79  76  60  63  60  71
 87  82  74  84  76  91  86  87  67  64  69  60  92  66  61  66
 67  77  60  64  65  78  66  64  76  61  62  70  60  62  67  60
 60  67  60  70  63  72  88  60  77  81  71  72  70  60  60  60
 60  60  60  60  60  60  60  62  60  61  60  60  60  60  60  60
 60  60  60  70  78  60  82  61  92  76  60  60  67  85  78  60
 67  60  64  60  77  86  60  64  63  65  63  63  63  64  84  79
 60  60  60  63  71  61  60  60  60  60  60  60  83  83  72  60
 68  77  82  83  71  80  62  60  61  86  60  66  60  78  72  60
 80 109  79  88  85  75  83  88  76  64  63  60  60  60  60  60
 60  72  60  81  73  73  63  62  63  60  61  68  65  60  63  60
 62  60  60  61  63  60  60  60  65  60  60  60  60  60  60  60
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 60  60  60  60  60  60  60  60  60  62  69  63  67  60  62  60
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 84  61  60  61  60  60  60  60  60  83  74  65  60  60  62  70
 73  74  83  79  65  60  60  64  60  91  88  60  63  63  60  81
 92  72  66  69  77  73  60  60  60  60  76  73  60  66  69  63
 60  60  60  60  60  61  60  60  60  61  60  60  68  68  60  60
 67  60  63  60  61  60  60  60  73  79  64  76  85  81  78  60
 60  78  60  60  60  60  60  63  62  60  60  60  60  60  62  62
 60  67  60  60  63  61  60  68  60  62  60  63  63  60  60  60
 60  60  60  60  60  60  69  73  60  73  76  77  69  60  85  82
 74  69  68  60  64  60  64  67  63  63  60  76  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
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 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

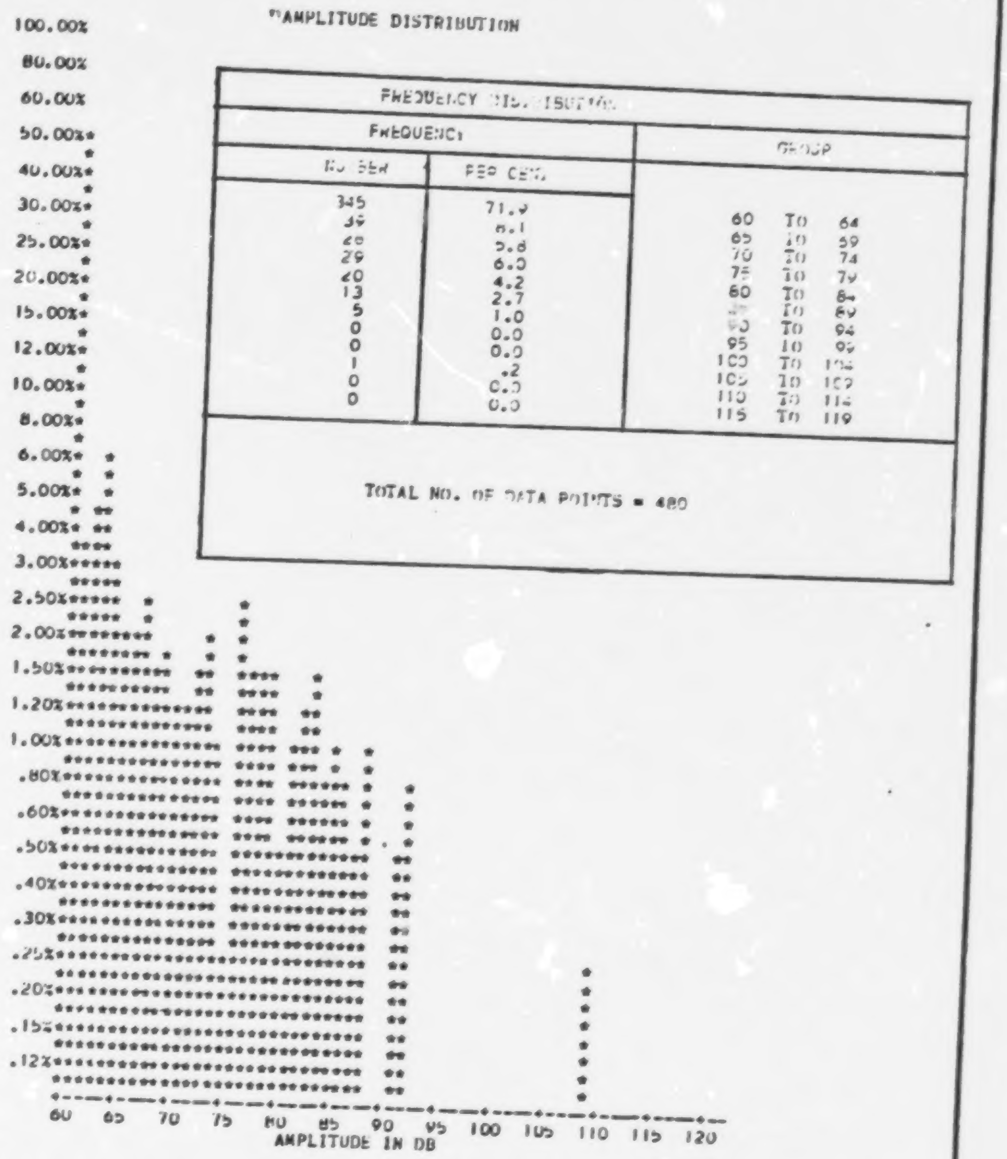
```
   DATA LOGGED :11 JUNE 1979          DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MACSH
 SERIAL NUMBER : 1224                      JOB CODE : 001
      BASELINE : 60 DB                    USER CODE : 2430
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =   99038
 TEST DURATION =    6:52:39            STANDBY TIME =   0:27:16

              TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS  .
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 412
 PERIOD =  1 MINUTES

 TIME           LOSHA                       %DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1      76.7      76.7            1.970      1.97
    2      72.3      74.8            1.073      3.04
    3      82.5      78.4            4.423      7.47
    4      61.1      76.5             .226      7.69
    5      71.5      75.7             .958      8.65
    6      71.6      75.2             .999      9.65
    7      68.3      74.6             .538     10.19
 MIN. COMP. =  60 DB               MAX. COMP. = 109 DB
 ARITHMETIC MEAN =  65 DB
 STD. DEVIATION =   8 DB
 VARIANCE = 64 DB
```

②

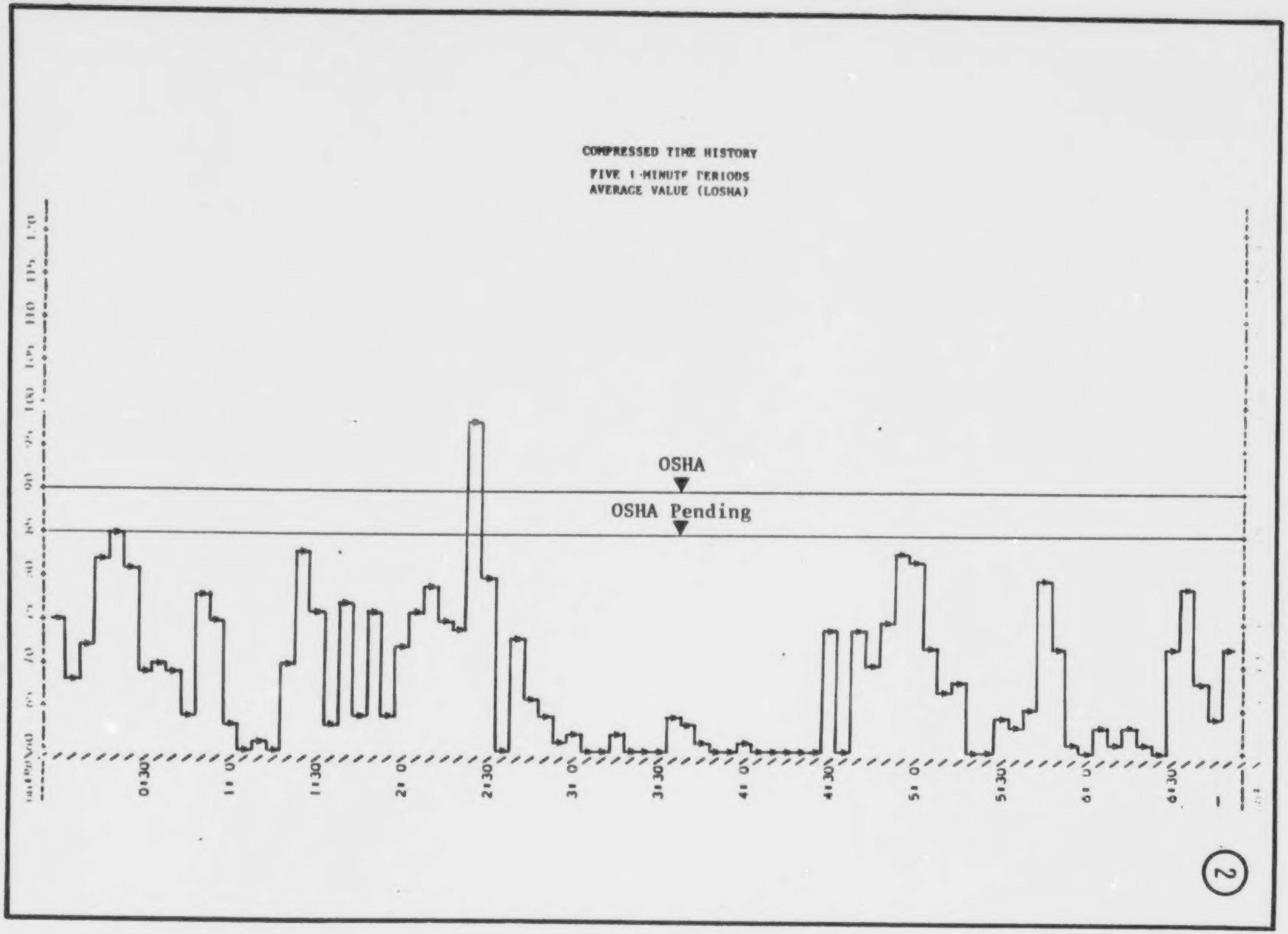


AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
345	71.9	60 TO 64
39	8.1	65 TO 69
28	5.8	70 TO 74
29	6.0	75 TO 79
20	4.2	80 TO 84
13	2.7	85 TO 89
5	1.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 412


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
②

③

Machinist

```
ENTER LOG DATE (MO/DY/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MADSH
ENTER USER CODE (4 CHARS) : 0775
 ENTER JOB CODE (3 CHARS) : 015
  1  26  85  1214   60   64    4    1
   7248    100851  420
  82  64  60  82  60  83  76  84  84  84  83  60  82  81  75  63
  67  85  61  79  83  79  77  65  82  76  79  82  62  76  83  86
  85  76  72  81  82  85  79  74  63  76  79  84  89  89  71  62
  84  89  88  84  84  76  72  69  60  61  63  71  82  76  70  88
  63  86  69  68  78  60  69  67  60  60  60  60  60  60  60  61
  60  67  61  60  60  60  67  63  73  66  64  60  65  67  64  69
  60  61  60  60  60  60  75  77  60  74  74  82  65  77  70  78
  85  79  69  64  76  60  60  60  62  73  64  65  60  77  80  71
  77  60  68  63  77  60  60  60  60  60  60  63  60  60  60  60
  60  60  60  66  67  80  82  73  72  68  71  77  60  63  61  61
  60  60  67  60  67  66  60  61  73  60  60  63  60  69  60  60
  60  64  62  60  62  60  84  81  82  79  60  60  63  69  78  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  65  66  60  61  76  83  83  73  72  61  60  80  79  80  60  63
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  68  66  71  63  68  60  62  63  61  63  70  60  69  68  60  74
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  60  60  69  76  64  72  80  60  67  63  60  64  60  60  61  60
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  65  76  77  60  81  80  85  76  87  78  84  82  80  83  71  60
  60  64  60  68  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



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         LOGGER : DB-301/26                     SITE CODE : MADSH
  SERIAL NUMBER : 1214                           JOB CODE : 015
       BASELINE : 60 DB                         USER CODE : 0775
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  100851
  TEST DURATION =   7: 0:12                  STANDBY TIME =   0:30:12

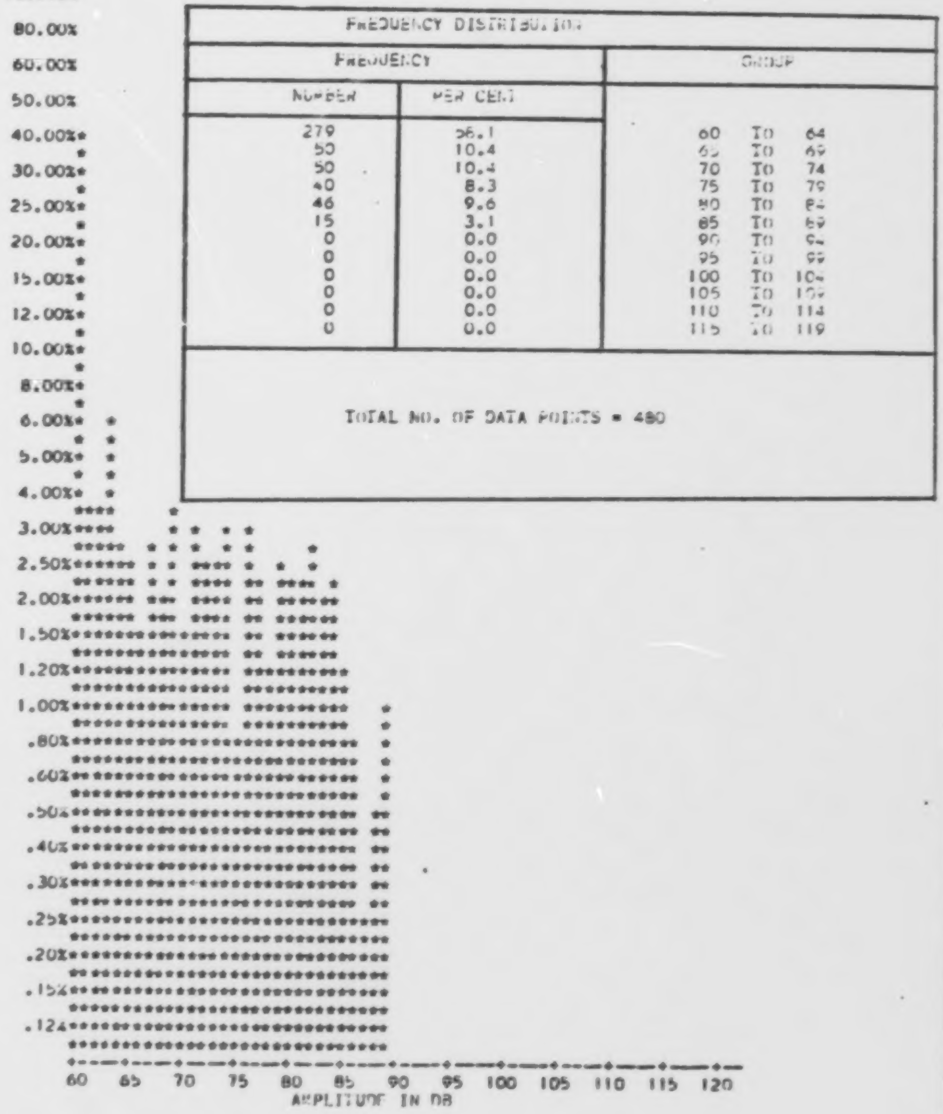
          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPILATIONS = 420
  PERIOD =  1 MINUTES

  TIME          LOSHA                        %DOSE
  HOUR     CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
    1        60.4       60.4              3.302       3.30
    2        74.0       77.9              1.353       4.66
    3        68.5       75.9               .634       5.29
    4        70.6       74.9               .852       6.14
    5        70.1       74.1               .791       6.93
    6        69.4       73.5               .720       7.65
    7        73.1       73.5              1.194       8.85
  MIN. COMP. =  60 DB                  MAX. COMP. =  89 DB
  ARITHMETIC MEAN =  67 DB
  STD. DEVIATION =   9 DB
  VARIANCE = 81 DB
```

③

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
279	58.1	60 TO 64
50	10.4	65 TO 69
50	10.4	70 TO 74
40	8.3	75 TO 79
46	9.6	80 TO 84
15	3.1	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

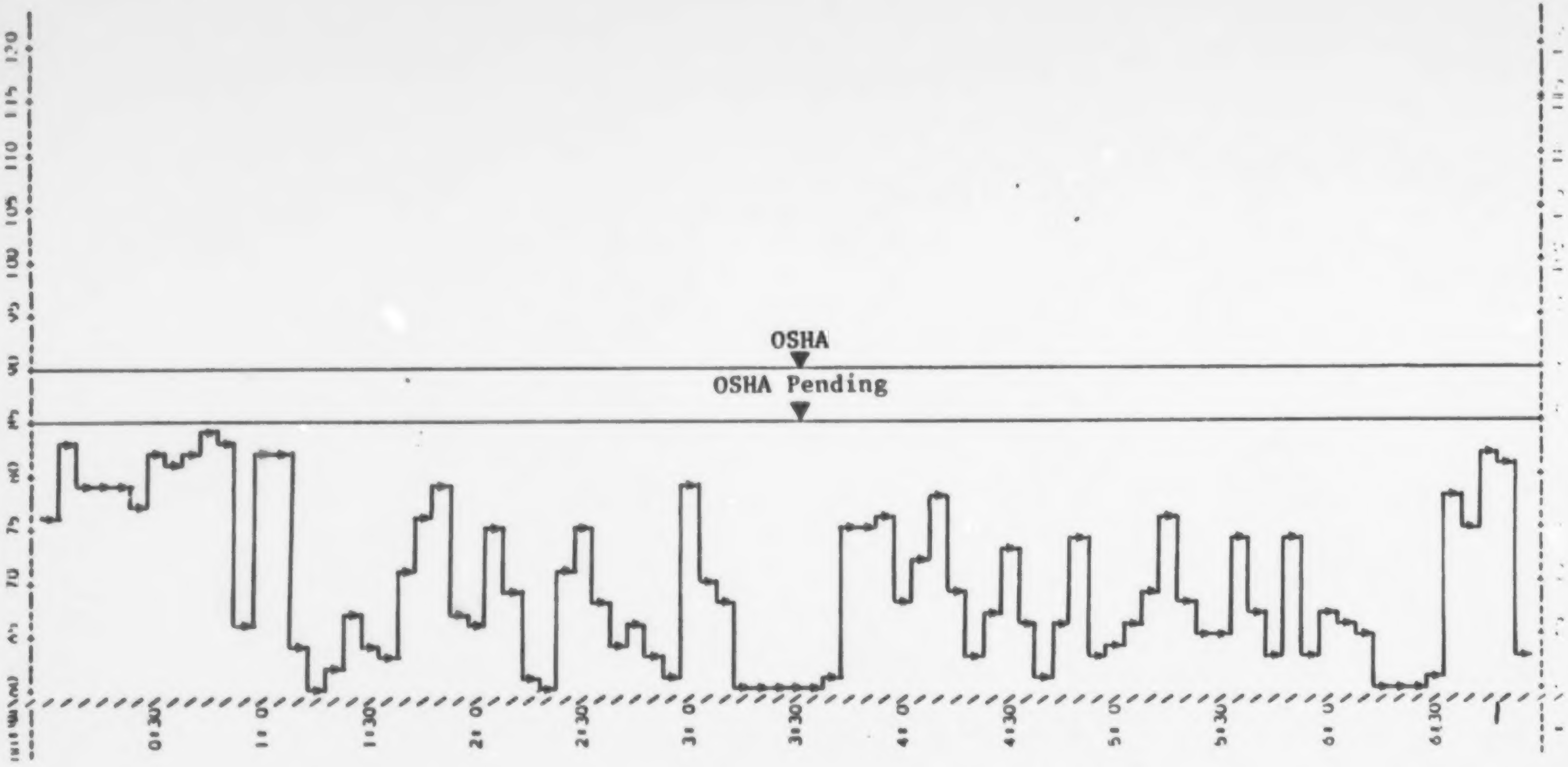
TOTAL NO. OF DATA POINTS = 480

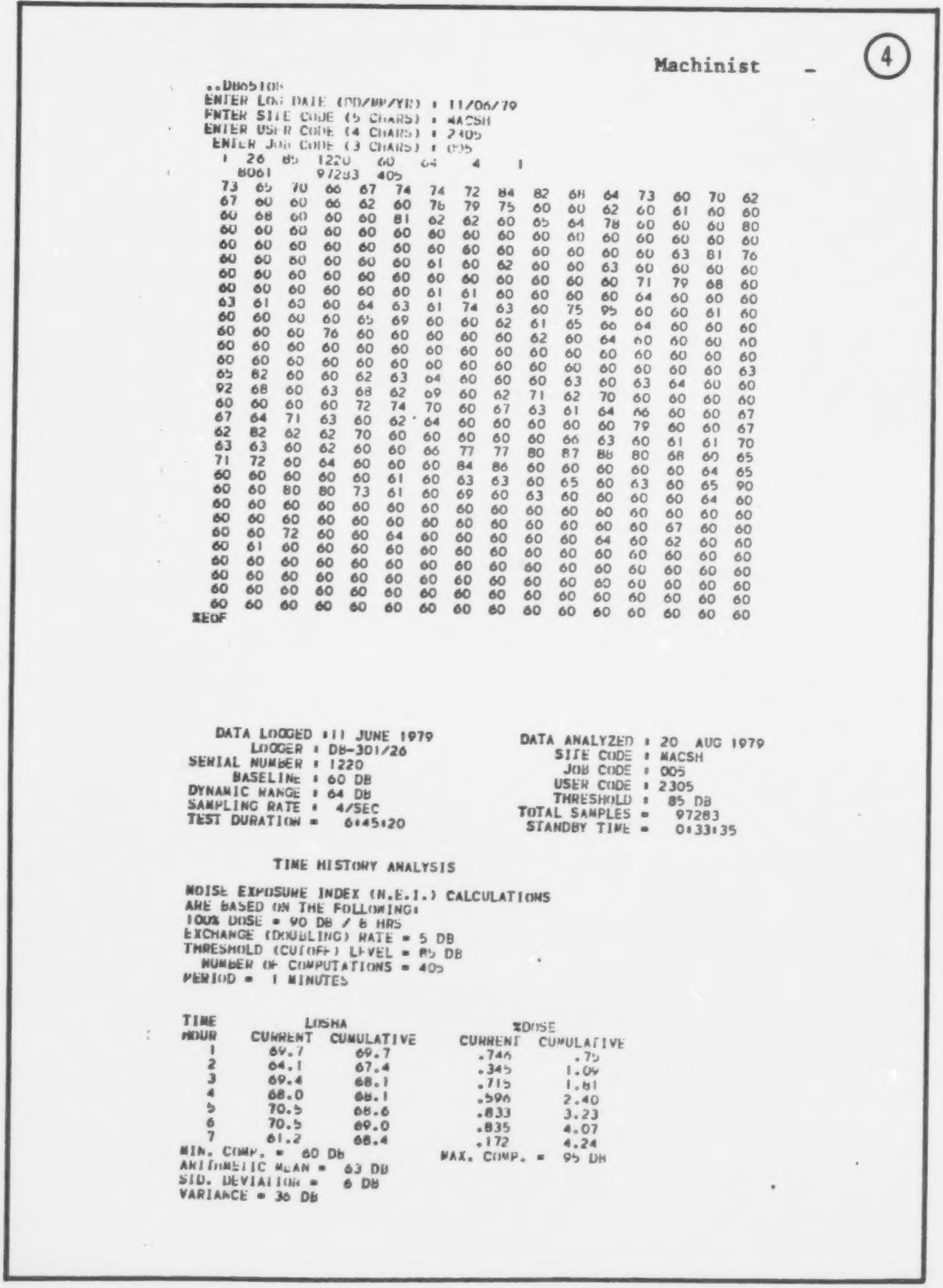
Number of computations = 420

③

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





Machinist - ④

```
..DB05IOR
ENTER LOG DATE (DD/MM/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 2305
 ENTER JOB CODE (3 CHARS) : 005
 1  26  85  1220   60   64    4    1
  8061       97283  405
 73  65  70  66  67  74  74  72  84  82  68  64  73  60  70  62
 67  60  60  66  62  60  76  79  75  60  60  62  60  61  60  60
 60  68  60  60  60  81  62  62  60  65  64  78  60  60  60  80
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  63  81  76
 60  60  60  60  60  60  61  60  62  60  60  63  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  71  79  68  60
 60  60  60  60  60  60  61  61  60  60  60  60  64  60  60  60
 63  61  60  60  64  63  61  74  63  60  75  95  60  60  61  60
 60  60  60  60  65  69  60  60  62  61  65  66  64  60  60  60
 60  60  60  76  60  60  60  60  60  62  60  64  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  63
 65  82  60  60  62  63  64  60  60  60  63  60  63  64  60  60
 92  68  60  63  68  62  69  60  62  71  62  70  60  60  60  60
 60  60  60  60  72  74  70  60  67  63  61  64  66  60  60  67
 67  64  71  63  60  62  64  60  60  60  60  60  79  60  60  67
 62  82  62  62  70  60  60  60  60  60  66  63  60  61  61  70
 63  63  60  62  60  60  66  77  77  80  87  88  80  68  60  65
 71  72  60  64  60  60  60  84  86  60  60  60  60  60  64  65
 60  60  60  60  60  61  60  63  63  60  65  60  63  60  65  90
 60  60  80  80  73  61  60  69  60  63  60  60  60  60  64  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  67  60  60
 60  60  72  60  60  64  60  60  60  60  60  64  60  62  60  60
 60  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


   DATA LOGGED : 11 JUNE 1979             DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : MACSH
 SERIAL NUMBER : 1220                          JOB CODE : 005
      BASELINE : 60 DB                        USER CODE : 2305
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   97283
 TEST DURATION =   6:45:20                 STANDBY TIME =   0:33:35

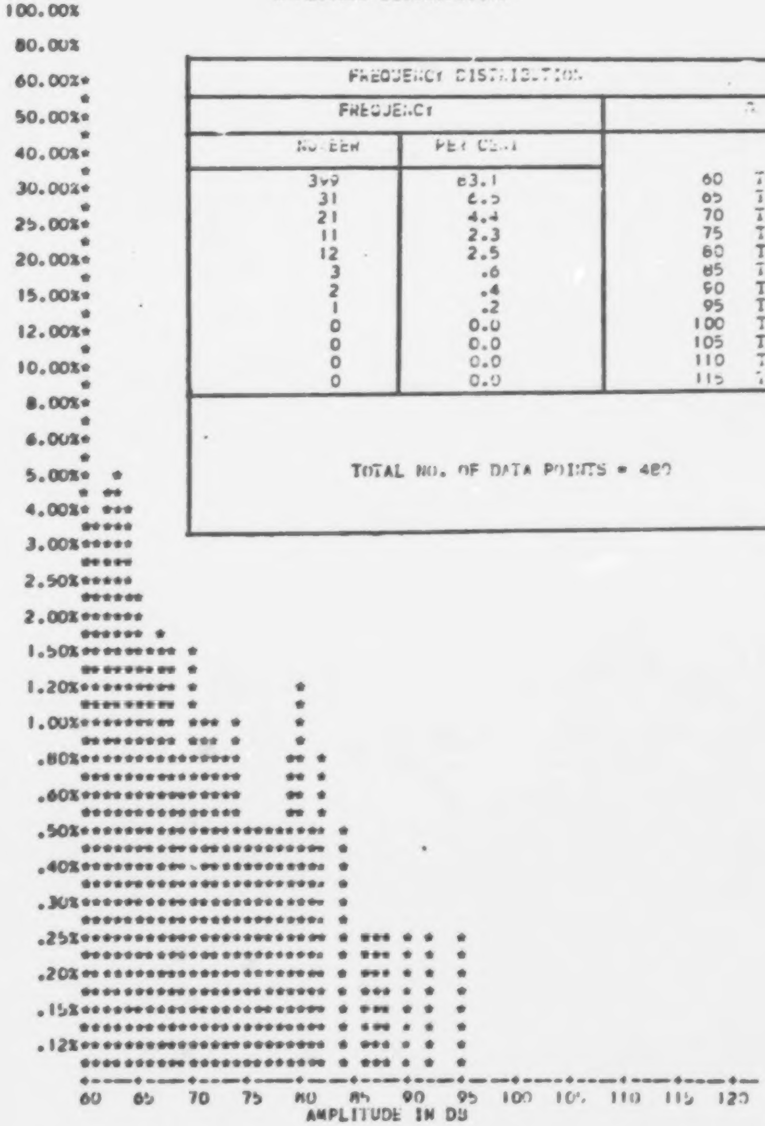
        TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 405
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR   CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1     69.7       69.7             .746        .75
   2     64.1       67.4             .345       1.09
   3     69.4       68.1             .715       1.81
   4     68.0       68.1             .596       2.40
   5     70.5       68.6             .833       3.23
   6     70.5       69.0             .835       4.07
   7     61.2       68.4             .172       4.24
MIN. COMP. =  60 DB               MAX. COMP. =  95 DB
ARITHMETIC MEAN =  63 DB
STD. DEVIATION =   6 DB
VARIANCE = 36 DB
```

④

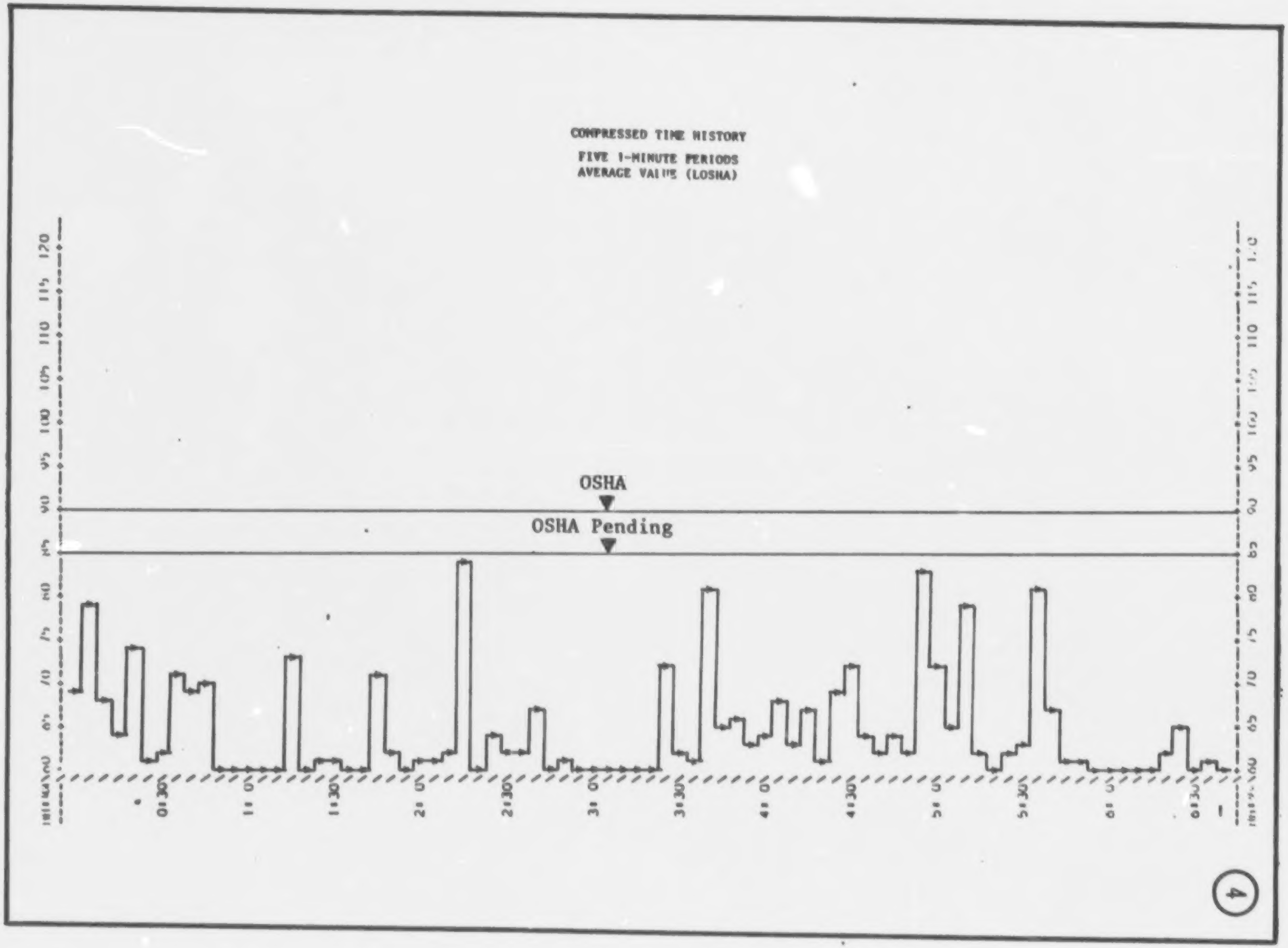
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
399	83.1	60 TO 64
31	6.5	65 TO 69
21	4.4	70 TO 74
11	2.3	75 TO 79
12	2.5	80 TO 84
3	.6	85 TO 89
2	.4	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 405


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
4

⑤

Mechanic

```
ENTER LOG DATE (DD/MM/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 1756
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1225   60   64    4    1
   9700      98941  412
  74  74  67  63  60  71  60  60  65  63  60  60  63  72  71  68
  64  63  66  67  62  68  65  62  66  63  60  67  63  60  81  82
  60  60  73  69  68  76  67  69  60  66  60  62  60  66  64  62
  65  72  67  60  60  60  60  60  60  60  60  60  60  60  60  60
  72  65  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  63  76  86  69  60  64  63  60  60  60  63  60
  63  61  67  73  60  60  62  65  60  64  63  61  64  60  60  60
  60  65  65  60  60  71  66  75  65  66  60  60  60  61  61  60
  60  60  60  60  63  60  60  60  64  60  60  60  60  60  60  60
  62  60  75  79  60  60  61  76  73  60  60  60  84  68  60  61
  60  86  80  80  66  60  60  60  60  60  60  60  60  60  74  76
  60  63  60  87  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  63  74  60  64  64  60  61  60
  60  69  64  68  61  64  60  61  82  71  63  71  67  60  68  60
  61  73  73  60  60  61  60  60  60  60  60  60  73  64  78  80
  70  60  60  60  60  60  60  68  64  69  62  63  64  65  60  60
  61  60  60  60  60  60  60  74  83  88  86  86  79  85  93  89
  98  96  88  88  87  87  88 100 102  60  60  60  67  60  78  72
  72  80  82  82  67  60  60  63  60  60  62  61  60  62  63  83
  73  60  67  65  63  60  63  65  60  60  60  61  60  61  73  60
  65  60  60  61  60  60  61  60  60  60  65  75  69  60  63  75
  69  68  64  62  60  60  65  60  60  70  60  74  74  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  63  60  62  60  89  95  96  97  96  89  89  98 103 103  88  85
  65  60  62  62  60  69  60  60  60  60  60  74  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

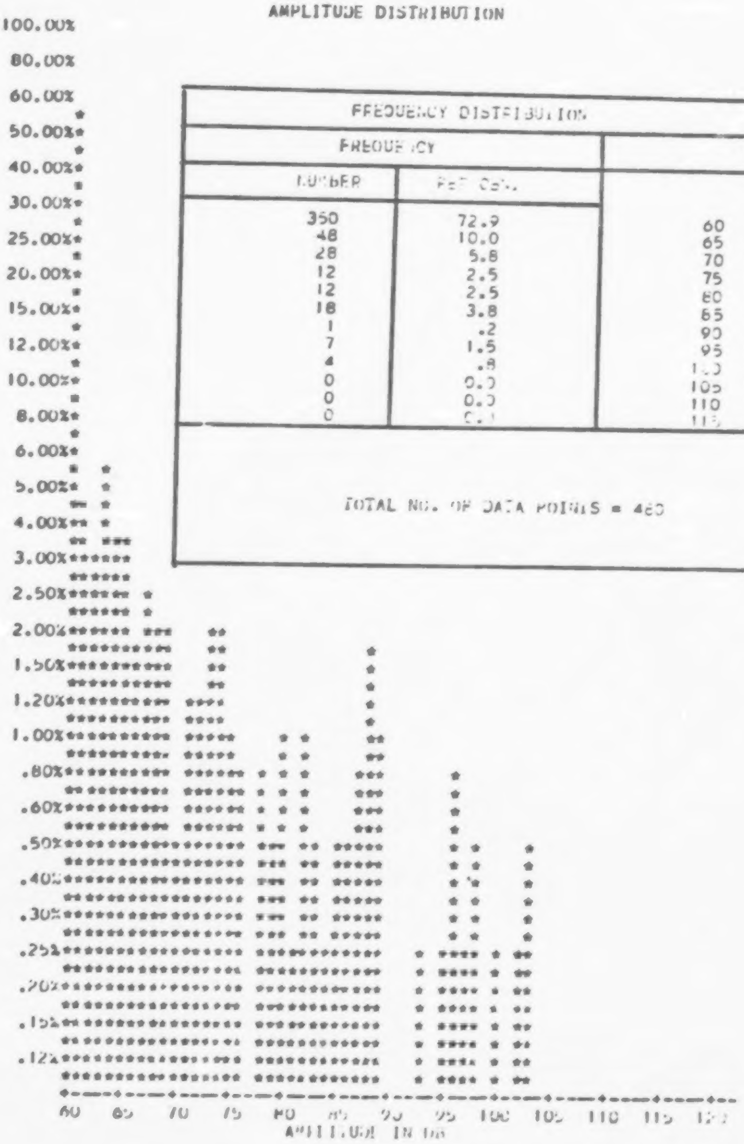
```
   DATA LOGGED :11 JUNE 1979            DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : MACSH
 SERIAL NUMBER : 1225                         JOB CODE : 001
      BASELINE : 60 DB                       USER CODE : 1756
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =   98941
 TEST DURATION =   6:52:15                STANDBY TIME =   0:40:25


           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 412
 PERIOD =  1 MINUTES


 TIME            LOSHA                      %DOSE
 HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1       67.6      67.6               .559       .56
    2       66.0      66.9               .452      1.01
    3       70.4      68.2               .822      1.83
    4       64.1      67.4               .345      2.18
    5       83.8      74.7              5.324      7.50
    6       68.5      74.0               .665      8.17
    7       85.9      77.1              6.102     14.27
 MIN. COMP. =  60 DB               MAX. COMP. = 103 DB
 ARITHMETIC MEAN =  65 DB
 STD. DEVIATION =   9 DB
 VARIANCE = 81 DB
```

⑤

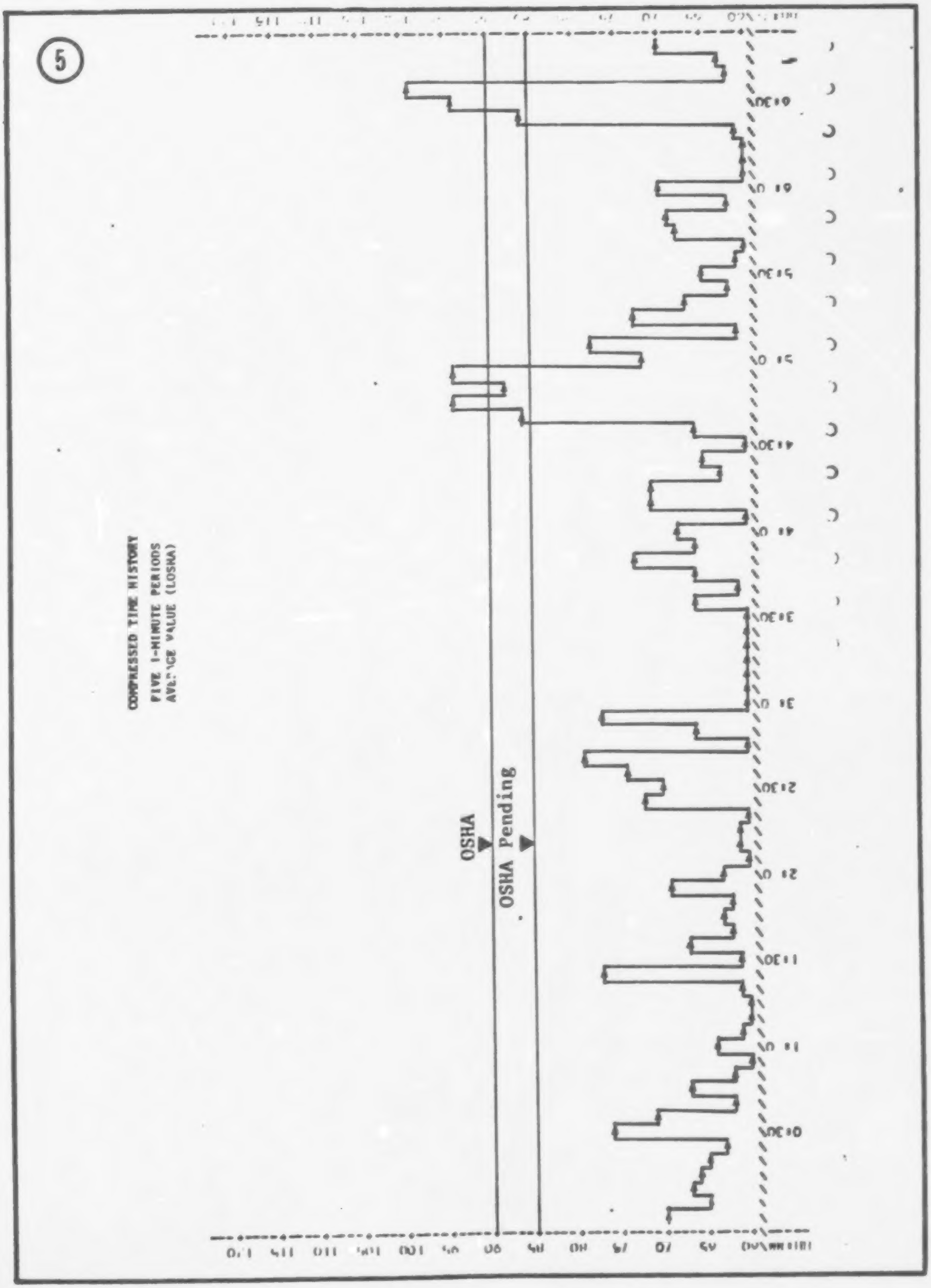

AMPLITUDE DISTRIBUTION

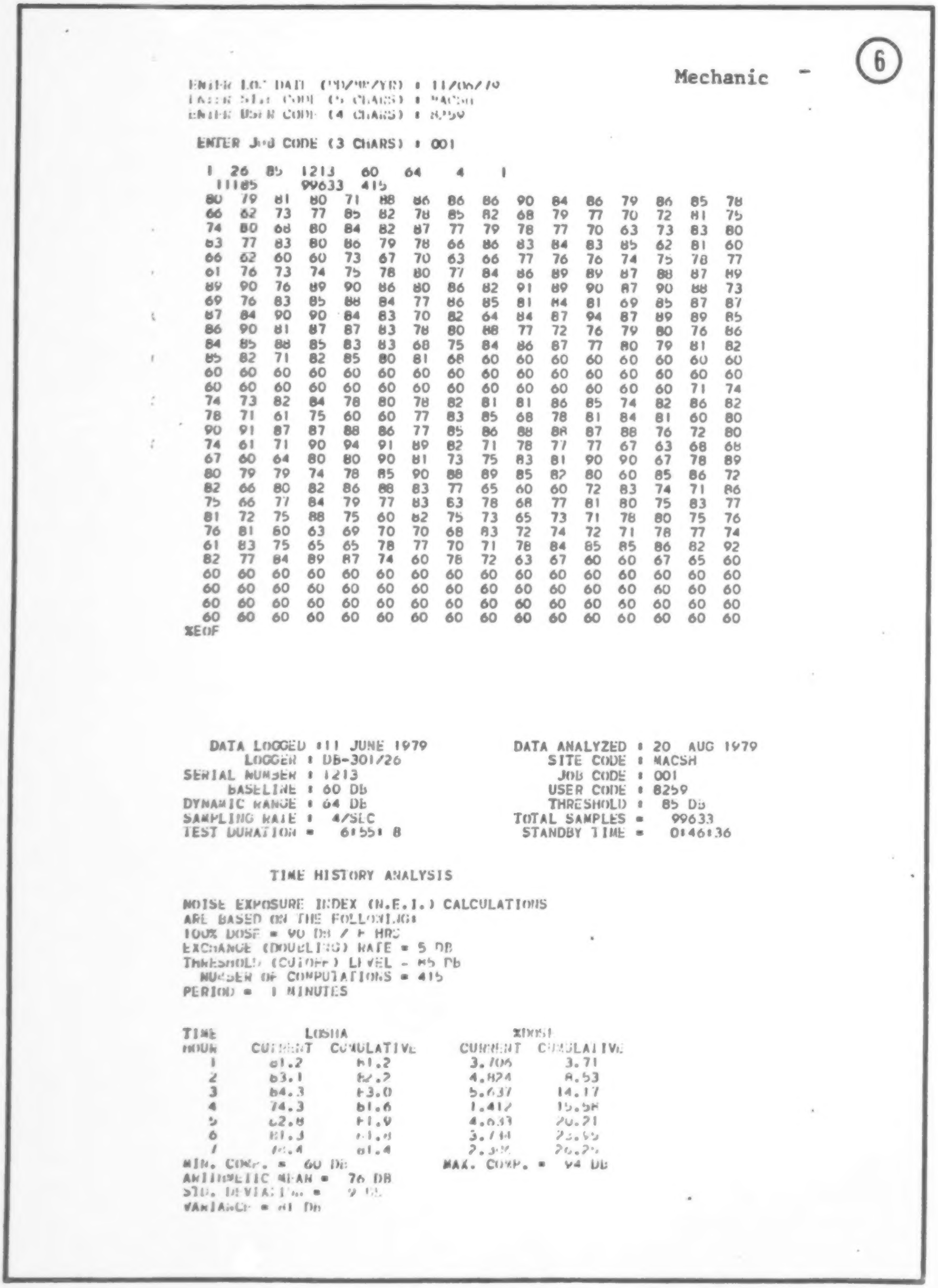
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
350	72.9	60 TO 64
48	10.0	65 TO 69
28	5.8	70 TO 74
12	2.5	75 TO 79
12	2.5	80 TO 84
18	3.8	85 TO 89
1	.2	90 TO 94
7	1.5	95 TO 99
4	.8	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 412

A23


5
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
60
65
70
75
80
85
90
95
100
105
110
115
120



Mechanic - ⑥

```
ENTER LOG DATE (MD/MO/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 8259

 ENTER JOB CODE (3 CHARS) : 001

  1  26  85  1213   60   64    4    1
   11185       99633  415
  80  79  81  80  71  88  86  86  86  90  84  86  79  86  85  78
  66  62  73  77  85  82  78  85  82  68  79  77  70  72  81  75
  74  80  68  80  84  82  87  77  79  78  77  70  63  73  83  80
  63  77  83  80  86  79  78  66  86  83  84  83  85  62  81  60
  66  62  60  60  73  67  70  63  66  77  76  76  74  75  78  77
  61  76  73  74  75  78  80  77  84  86  89  89  87  88  87  89
  89  90  76  89  90  86  80  86  82  91  89  90  87  90  88  73
  69  76  83  85  88  84  77  86  85  81  84  81  69  85  87  87
  87  84  90  90  84  83  70  82  64  84  87  94  87  89  89  85
  86  90  81  87  87  83  78  80  88  77  72  76  79  80  76  86
  84  85  88  85  83  83  68  75  84  86  87  77  80  79  81  82
  85  82  71  82  85  80  81  68  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  71  74
  74  73  82  84  78  80  78  82  81  81  86  85  74  82  86  82
  78  71  61  75  60  60  77  83  85  68  78  81  84  81  60  80
  90  91  87  87  88  86  77  85  86  88  88  87  88  76  72  80
  74  61  71  90  94  91  89  82  71  78  77  77  67  63  68  68
  67  60  64  80  80  90  81  73  75  83  81  90  90  67  78  89
  80  79  79  74  78  85  90  88  89  85  82  80  60  85  86  72
  82  66  80  82  86  88  83  77  65  60  60  72  83  74  71  86
  75  66  77  84  79  77  83  63  78  68  77  81  80  75  83  77
  81  72  75  88  75  60  82  75  73  65  73  71  78  80  75  76
  76  81  60  63  69  70  70  68  83  72  74  72  71  78  77  74
  61  83  75  65  65  78  77  70  71  78  84  85  85  86  82  92
  82  77  84  89  87  74  60  78  72  63  67  60  60  67  65  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED :11 JUNE 1979            DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : MACSH
 SERIAL NUMBER : 1213                        JOB CODE : 001
      BASELINE : 60 DB                      USER CODE : 8259
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =   99633
 TEST DURATION =    6:55: 8              STANDBY TIME =   0:46:36

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL - 85 DB
  NUMBER OF COMPUTATIONS = 415
PERIOD =  1 MINUTES

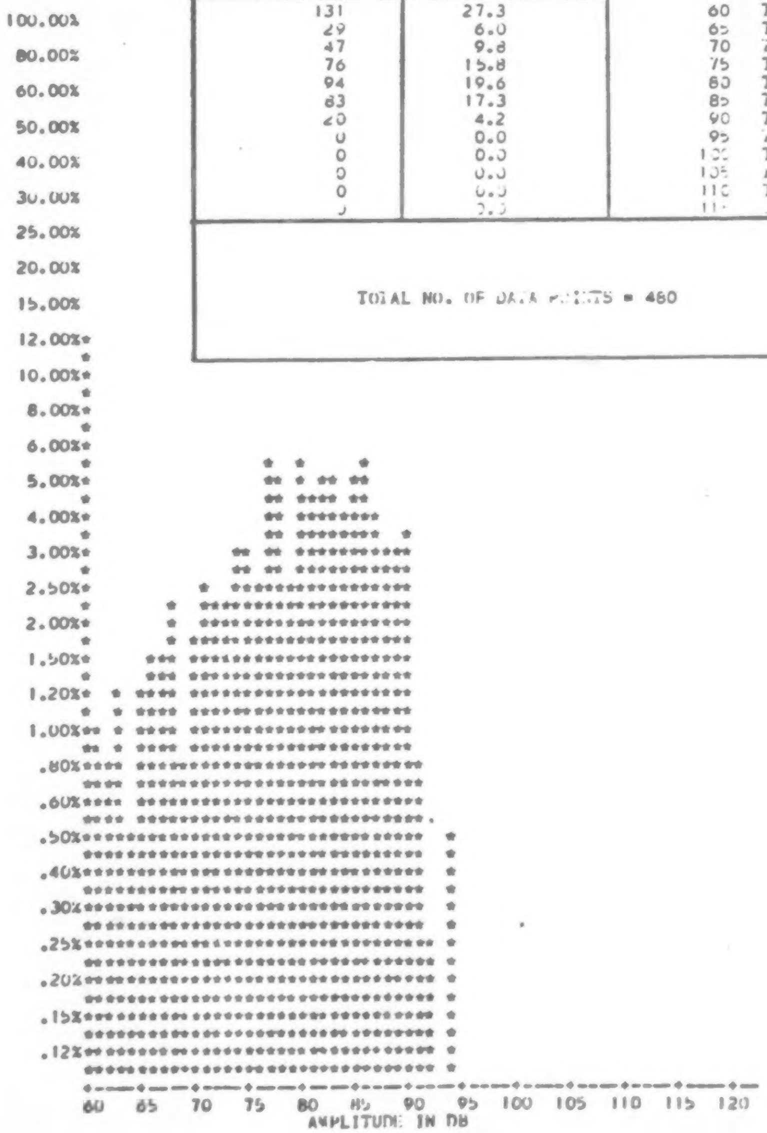
TIME            LOSHA                       %DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       81.2       81.2            3.706      3.71
   2       83.1       82.2            4.824      8.53
   3       84.3       83.0            5.637     14.17
   4       74.3       81.6            1.412     15.58
   5       82.8       81.9            4.633     20.21
   6       81.3       81.8            3.744     23.95
   7       80.4       81.4            2.3[illegible]     26.2[illegible]
MIN. COMP. =  60 DB                MAX. COMP. =  94 DB
ARITHMETIC MEAN =  76 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

⑥

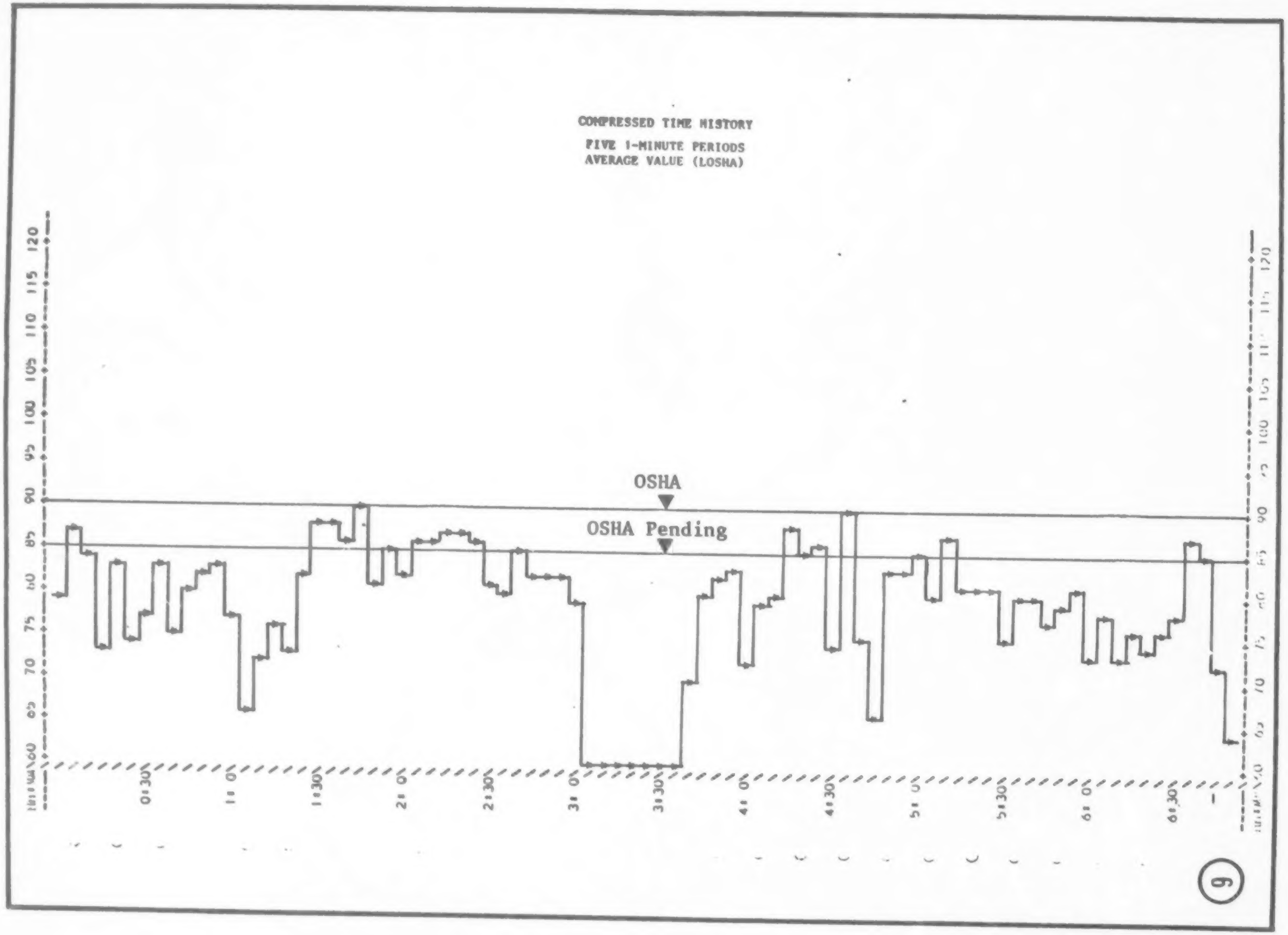
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
131	27.3	60 TO 64
29	6.0	65 TO 69
47	9.8	70 TO 74
76	15.8	75 TO 79
94	19.6	80 TO 84
83	17.3	85 TO 89
20	4.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 415


COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑦

Mechanic

```
[illegible]
..DB0510N
ENTER LOG DATE (DD/MM/YR) : 11/06/79

ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 6968
 ENTER JOB CODE (3 CHARS) : 031
  1  26  85  1215   60   64    4    1
   12554      98732  411
  75  78  80  78  75  74  73  63  69  67  65  60  65  70  60  80
  72  79  82  76  68  67  78  77  61  73  77  73  76  70  60  68
  61  69  81  85  76  84  78  88  91  91  77  69  74  84  74  68
  75  76  64  72  75  71  71  81  77  79  76  76  80  63  70  66
  60  65  65  74  65  67  60  62  60  60  60  62  61  62  60  60
  60  60  60  67  69  60  73  72  71  81  88  76  68  71  60  82
  78  65  64  72  60  67  69  86  89  91  89  89  90  89  65  68
  65  88  89  89  80  88  73  83  78  83  80  86  87  84  82  84
  80  84  87  83  83  79  79  76  88  87  90  91  91  89  80  96
  85  89  85  88  77  70  76  79  76  72  79  87  86  75  60  73
  84  64  76  67  67  75  76  80  84  79  82  63  74  72  68  72
  70  75  65  60  66  62  64  72  65  62  60  60  60  60  60  66
  64  60  60  60  60  60  50  63  65  65  61  64  72  61  60  60
  60  60  60  60  60  64  67  63  62  65  74  72  60  75  77  74
  76  67  60  65  60  69  76  74  86  78  89  85  82  77  83  86
  90  62  88  81  83  87  79  83  70  79  80  86  77  86  74  88
  85  73  76  84  72  85  84  87  84  87  84  85  86  66  75  74
  77  85  75  71  68  68  73  76  72  78  73  78  69  72  78  74
  73  69  70  72  78  85  62  79  83  83  87  85  78  80  77  70
  68  60  79  81  62  87  68  88  78  81  76  73  76  70  65  68
  62  71  80  90  80  60  77  75  73  63  60  71  86  71  75  77
  68  78  80  75  80  60  81  83  73  60  60  70  71  71  83  85
  67  63  60  60  69  70  73  60  60  60  76  76  67  70  75  87
  81  76  70  60  65  82  74  82  80  84  84  83  81  81  84  85
  81  79  79  83  80  82  82  77  85  85  83  86  80  75  82  75
  68  86  87  83  61  77  66  66  79  77  65  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
     DATA LOGGED :11 JUNE 1979                DATA ANALYZED : 20  AUG 1979
          LOGGER : DB-301/26                      SITE CODE : MACSH
   SERIAL NUMBER : 1215                            JOB CODE : 031
        BASELINE : 60 DB                          USER CODE : 6968
   DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =   98732
   TEST DURATION =   6:51:23                   STANDBY TIME =   0:52:18

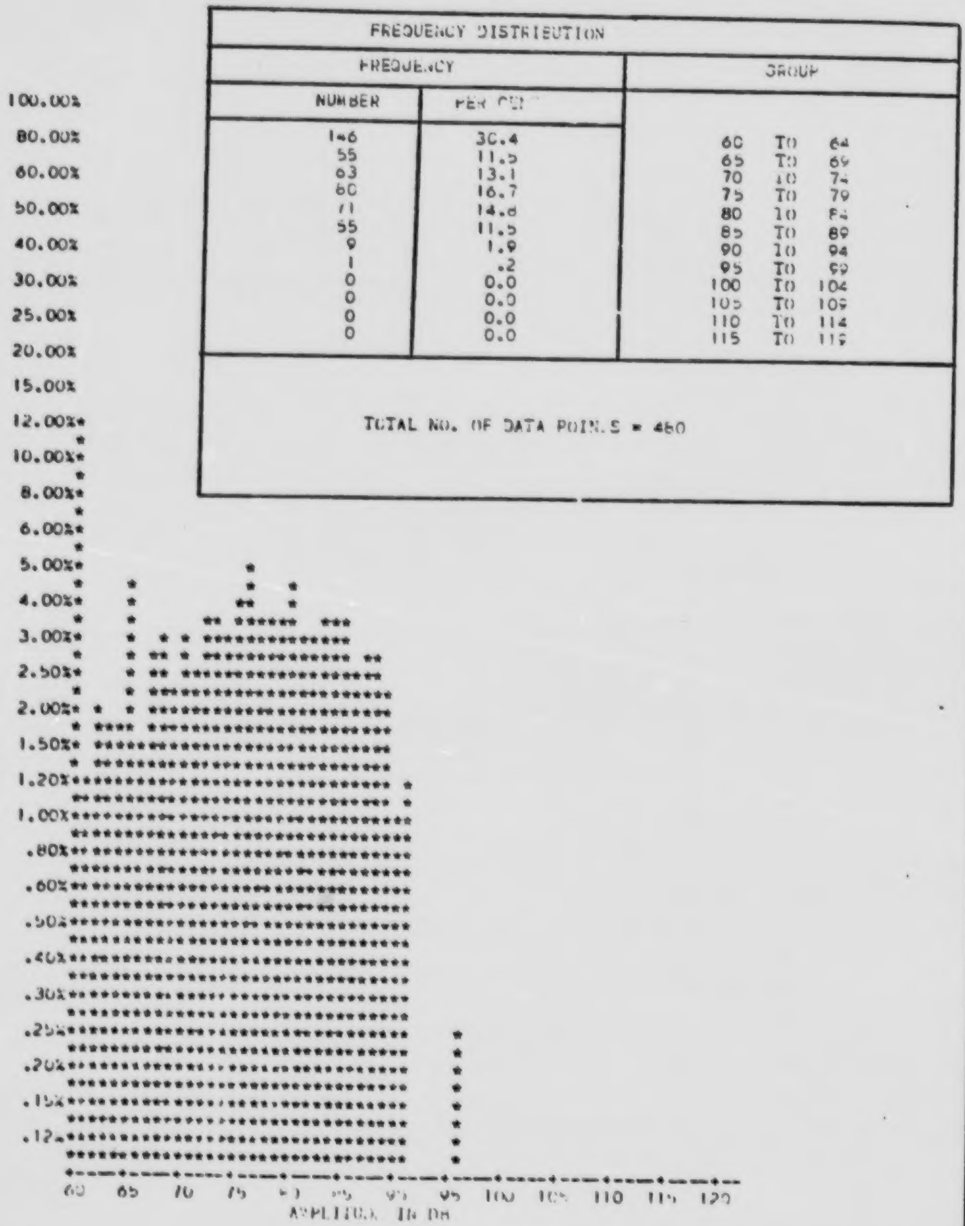

              TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 85 DB
     NUMBER OF COMPUTATIONS = 411
   PERIOD =  1 MINUTES


   TIME            LOSHA                       %DOSE
   HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
      1        77.5        77.5            2.223        2.22
      2        79.3        78.5            2.834        5.06
      3        82.9        80.3            4.661        9.72
      4        73.5        79.1            1.270       10.99
      5        81.1        79.5            3.617       14.61
      6        77.7        79.2            2.262       16.87
      7        80.2        79.4            2.725       19.59
   MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
   ARITHMETIC MEAN =  74 DB
   STD. DEVIATION =   9 DB
   VARIANCE = 81 DB
```

⑦

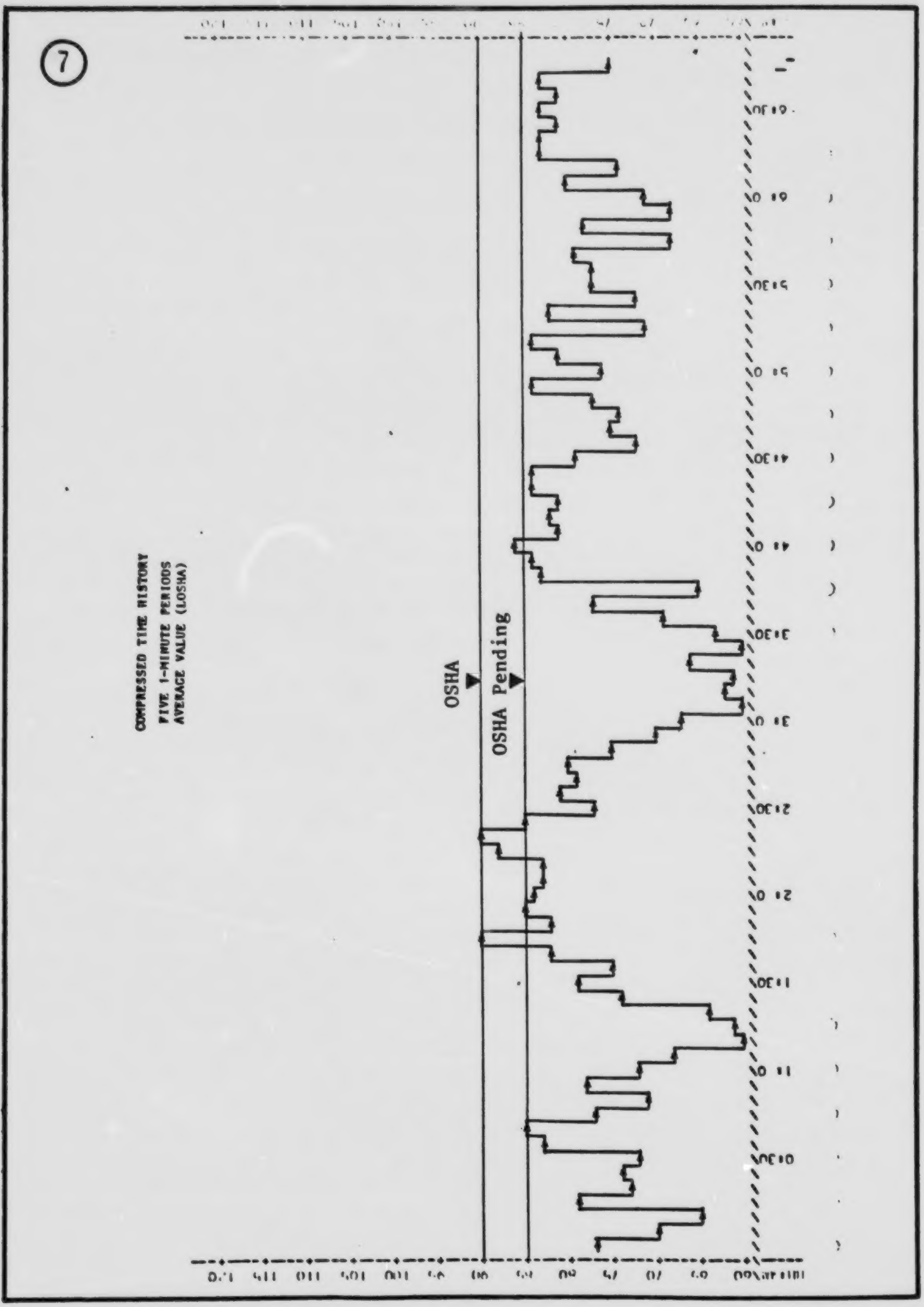
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
146	30.4	60 TO 64
55	11.5	65 TO 69
63	13.1	70 TO 74
60	16.7	75 TO 79
71	14.8	80 TO 84
55	11.5	85 TO 89
9	1.9	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 460

Number of computations = 411


⑦
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
60
65
70
75
80
85
90
95
100
105
110
115
120

Mechanic ⑧

```
ENTER LOG DATE (DD/MM/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0806
 ENTER JOB CODE (3 CHARS) : 001
  1  26  85  1221   60   64    4    1
   12806      90967  379
  60  60  60  60  64  62  60  60  60  60  60  60  60  63  60  60
  60  60  60  60  60  62  60  60  67  60  60  61  63  61  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  76  86  86  80  98 112  60  60  60  60  60  60  60  60
  60  60  60  60  66  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  81  83  87  87  84  85  73  69  60  63
  60  60  60  64  80  60  60  60  60  67  68  77  61  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  71  81  78  73  60  89  60  79  60  89  60  60  65  60
  60  60  60  60  61  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  61  60  74  85  62  60  60  60  60  60
  60  60  84  64  83  78  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  67  60  60  88  60  60
  71  89  71  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  62  68  71  61  60  61  60  60  60
  60  60  60  60  61  60  60  60  60  60  60  60  60  64  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  64  60  60  60
  60  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

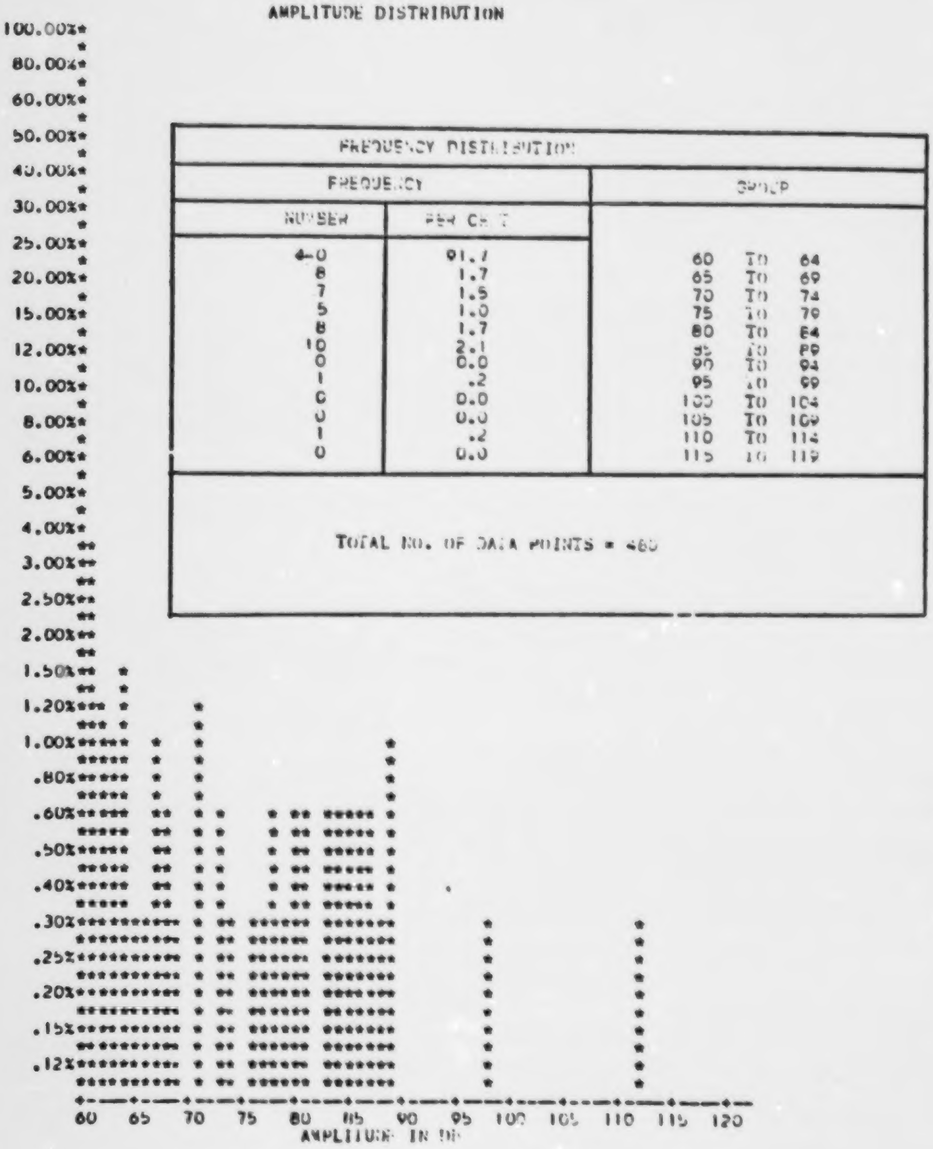
```
    DATA LOGGED :11 JUNE 1979              DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MACSH
  SERIAL NUMBER : 1221                          JOB CODE : 001
       BASELINE : 60 DB                        USER CODE : 0806
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   90967
  TEST DURATION =   6:19: 1                 STANDBY TIME =   0:53:21

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 379
PERIOD =  1 MINUTES

TIME         LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      64.1       64.1           5.541       5.54
   2      71.1       80.2            .910       6.45
   3      69.4       78.1            .718       7.17
   4      70.9       76.8            .880       8.05
   5      60.8       75.4            .219       8.27
   6      60.0       74.3            .196       8.46
   7      60.3       73.9            .065       8.53
MIN. COMP. =  60 DB                 MAX. COMP. = 112 DB
ARITHMETIC MEAN =  62 DB
STD. DEVIATION =   7 DB
VARIANCE = 49 DB
```

⑧

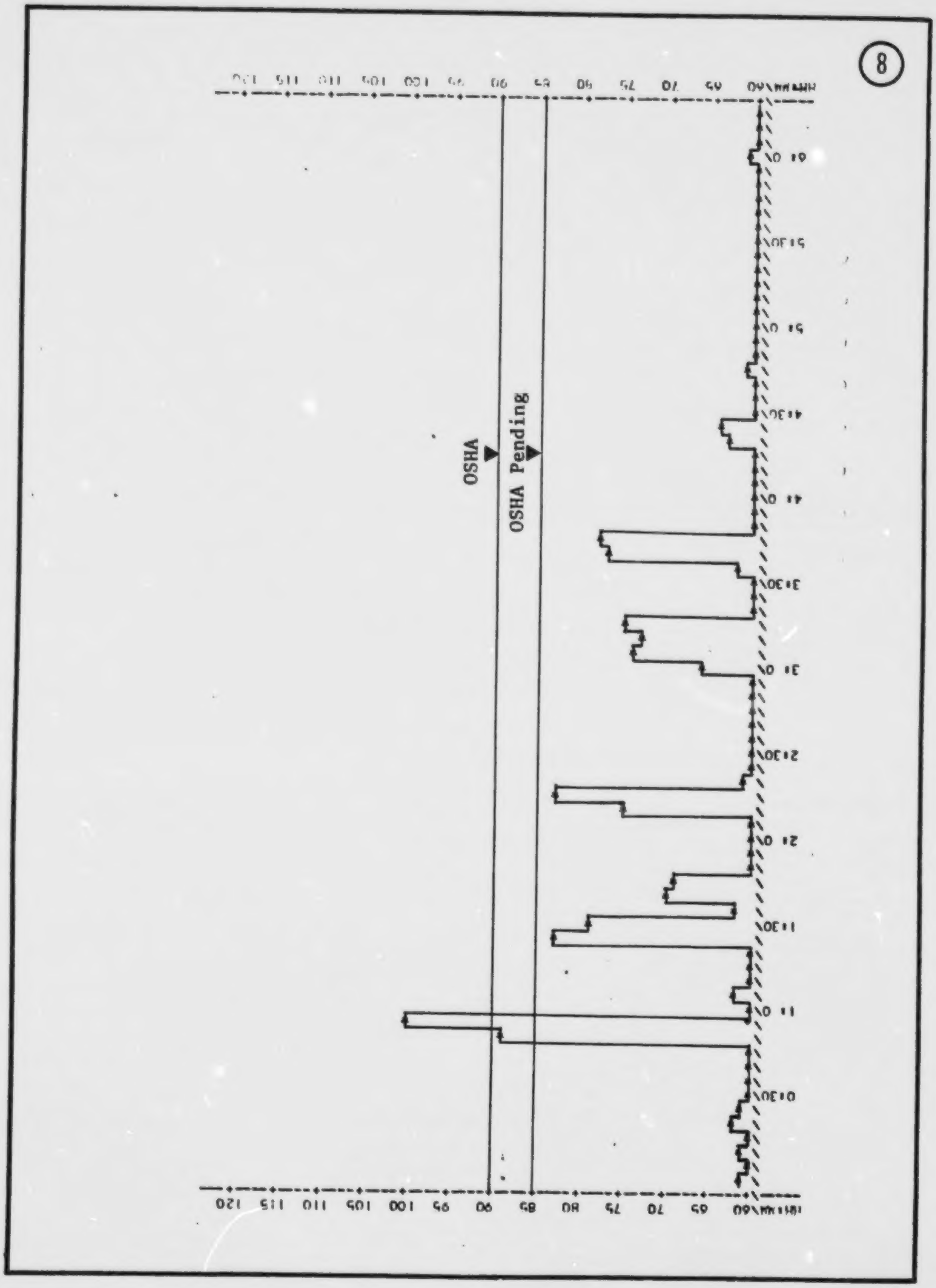


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
440	91.7	60 TO 64
8	1.7	65 TO 69
7	1.5	70 TO 74
5	1.0	75 TO 79
8	1.7	80 TO 84
10	2.1	85 TO 89
0	0.0	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
1	.2	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 379


⑧
HH:MM\60
65
70
75
80
85
90
95
100
105
110
115
120
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0

⑨

Mechanic

```
[illegible]
..DB[illegible]
ENTER TODAY DATE (MM/DD/YR) : 11/05/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0444
 ENTER JOB CODE (3 CHARS) : 001
  . 26  85  1218   60   64    4    1
   14033      98754  411
    74  61  63  60  70  60  60  60  60  60  60  60  60  60  60  60
    77  65  63  65  66  71  63  67  75  60  66  66  60  60  62  62
    60  60  64  60  60  60  61  60  60  60  61  60  60  60  60  69
    60  62  71  63  72  65  77  61  73  75  68  60  62  76  68  65
    60  64  60  60  60  60  66  60  60  60  60  60  60  61  60  60
    60  60  60  63  70  63  60  63  69  83  70  64  60  74  72  71
    62  61  62  70  66  70· 76  68  67  61  63  62  62  60  60  60
    60  61  60  60  61  60  60  60  75  62  60  61  62  60  60  60
    62  67  60  66  60  60  68  63  60  60  60  60  60  60  60  60
    60  62  60  70  60  78  80  77  78  75  60  60  60  60  61  74
    80  60  74  71  69  77  77  81  75  71  71  60  66  66  60  60
    60  63  64  70  60  60  66  60  63  60  60  60  60  60  60  60
    60  60  65  60  60  60  60  60  60  60  60  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  71  70  74  64  60  65  83
    94  77  60  65  74  77  87  97  87  85  61  78  68  72  95  91
    92  92  93  94  95  95  97  83  72  65  73  60  60  67  64  69
    93  89  88  87  88  86  93  77  69  60  75  63  70  72  69  66
    71  62  61  61  62  60  62  60  65  60  60  60  65  62  61  61
    68  65  70  74  78  71  63  66  61  60  75  71  78  60  60  60
    60  69  72  77  75  78  79  65  65  65  60  66  62  61  60  60
    60  61  74  71  60  65  63  65  65  75  71  64  64  60  67  61
    70  74  82  73  73  66  60  65  63  73  86  66  60  73  68  68
    60  62  71  60  66  74  66  60  60  64  60  60  60  60  63  60
    60  60  62  60  60  60  63  60  63  60  67  60  60  60  60  65
    62  61  70  60  60  61  60  66  68  64  60  60  67  72  61  69
    72  66  60  60  62  63  62  62  60  60  62  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
    60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
    DATA LOGGED :11 JUNE 1979              DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                      SITE CODE : MACSH
  SERIAL NUMBER : 1218                            JOB CODE : 001
       BASELINE : 60 DB                          USER CODE : 0444
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =   96754
  TEST DURATION =   5:51:28                   STANDBY TIME =   0:58:28

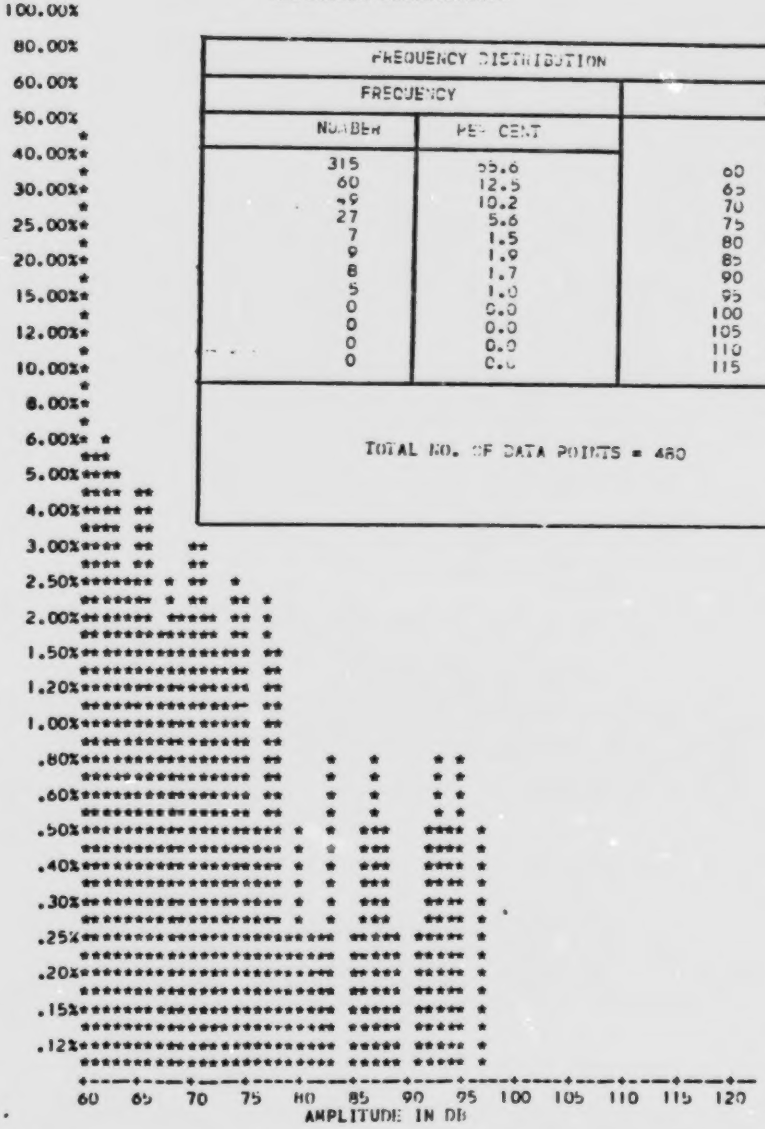
          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 411
  PERIOD =  1 MINUTES

  TIME          LOSHA                        %DOSE
  HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
     1      65.9      65.9              .443       .44
     2      66.3      66.1              .466       .91
     3      69.4      67.4              .721      1.63
     4      78.1      71.8             2.390      4.02
     5      82.7      75.6             4.524      6.54
     6      70.5      75.0              .836      9.38
     7      63.2      74.2              .260      9.64
  MIN. COMP. =  60 DB                MAX. COMP. =  97 DB
  ARITHMETIC MEAN =  65 DB
  STD. DEVIATION =   8 DB
  VARIANCE = 64 DB
```

⑨

AMPLITUDE DISTRIBUTION

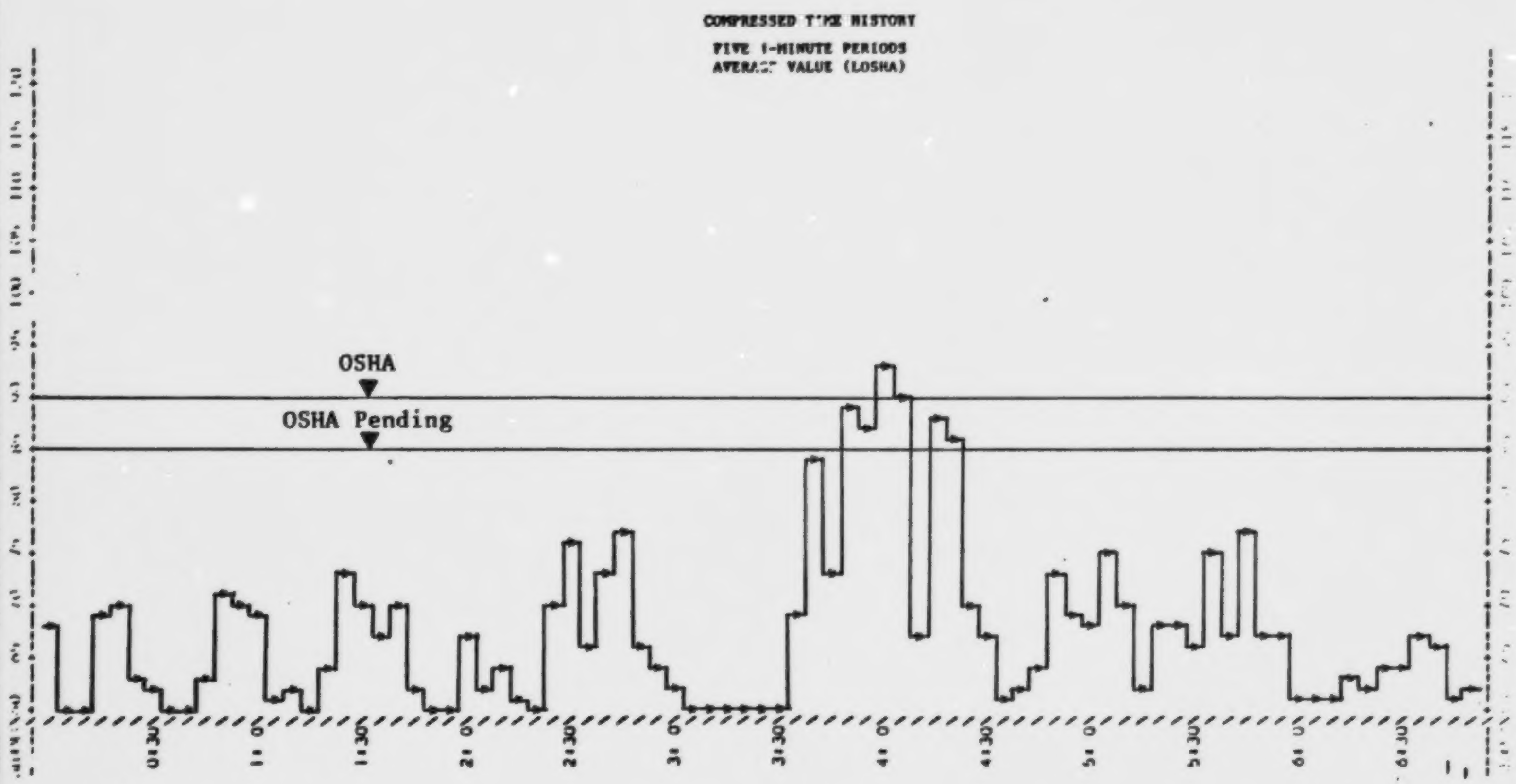


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
315	65.6	60 TO 64
60	12.5	65 TO 69
49	10.2	70 TO 74
27	5.6	75 TO 79
7	1.5	80 TO 84
9	1.9	85 TO 89
8	1.7	90 TO 94
5	1.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 411

⑨



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑩

Machinist

```
ENTER LOG DATE (MO/DA/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0410
 ENTER JOB CODE (3 CHARS) : 005
  1  26  85  1222   60   64    4    1
   15673    100136  417
  65  85  78  78  65  71  80  61  60  67  73  85  75  72  60  63
  60  70  62  63  68  66  64  74  75  71  67  79  60  69  64  69
  60  65  64  77  70  69  70  73  60  73  60  60  60  60  60  60
  60  60  60  60  60  60  63  60  64  67  60  60  63  60  60  62
  60  60  60  60  61  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  62  60  62
  75  69  74  61  60  60  60  60  60  65  60  60  60  63  74  64
  63  60  64  73  89  65  67  64  83  84  66  62  60  60  60  60
  60  60  60  71  64  61  60  60  67  76  76  75  60  60  60  62
  61  61  60  70  60  60  60  62  60  60  60  63  60  64  73  93
  89  63  60  63  60  72  61  96  93  60  60  65  71  72  75  63
  63  62  60  60  69  60  60  60  60  67  82  60  61  61  61  60
  60  60  61  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  60  66  62  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  66  66  67  60  63  69  78  75  60  60  63  63  60  70
  70  60  62  83  86  72  82  77  77  66  60  61  66  69  75  85
  65  69  60  62  78  60  60  60  81  76  60  60  66  69  60  74
  71  60  68  64  60  62  62  60  63  73  60  60  66  81  70  60
  63  64  60  60  82  84  83  74  73  72  75  80  60  60  68  67
  61  64  65  85  66  63  73  63  60  67  73  81  82  83  86  80
  60  62  72  66  72  63  63  66  60  60  80  83  70  60  65  60
  62  68  82  77  79  60  82  80  60  62  68  62  66  60  60  60
  60  74  61  70  60  60  64  75  70  60  78  75  69  60  74  60
  63  74  63  61  66  78  69  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60  60
  64  60  60  60  60  65  60  74  68  68  63  60  60  68  70  60
  68  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



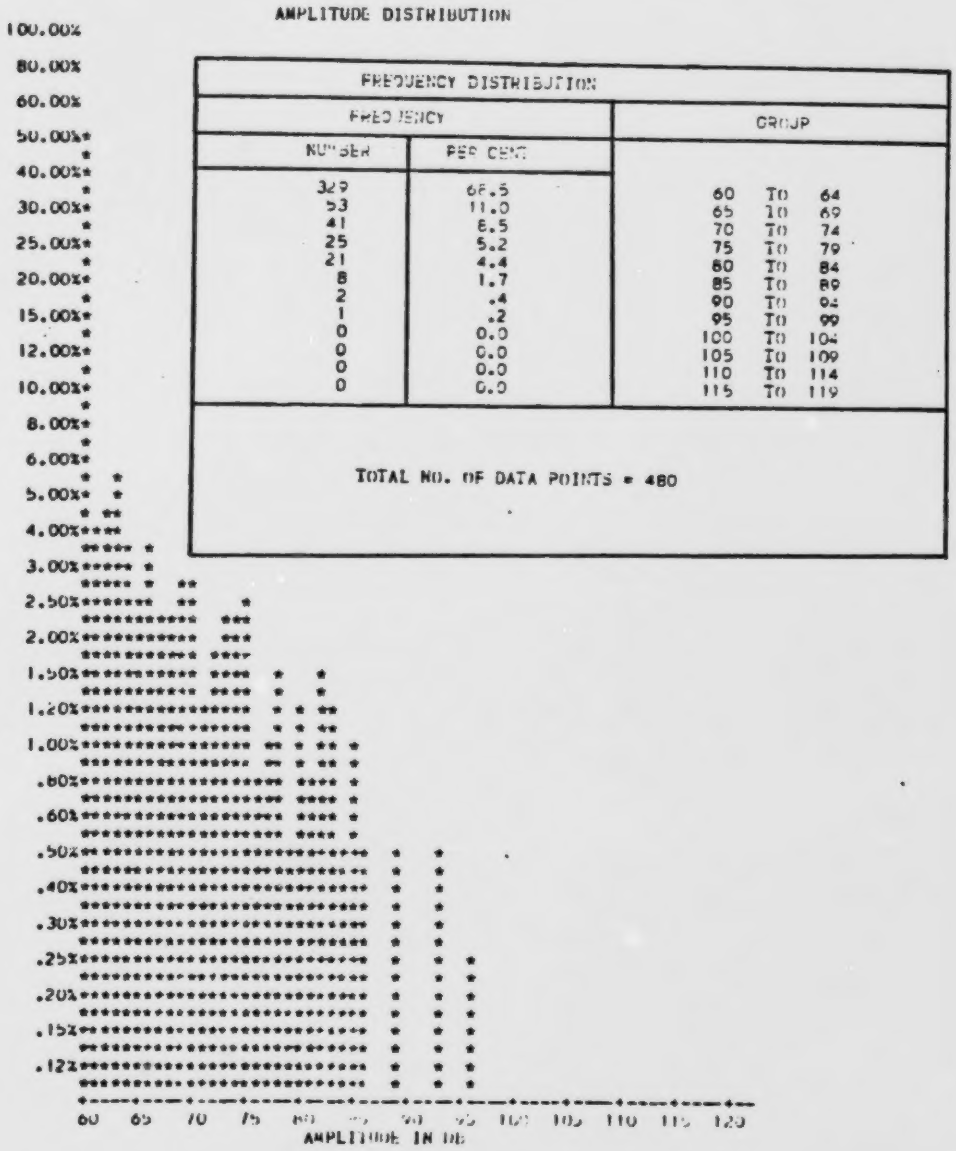

   DATA LOGGED :11 JUNE 1979                  DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                        SITE CODE : MACSH
 SERIAL NUMBER : 1222                              JOB CODE : 005
      BASELINE : 60 DB                            USER CODE : 0410
 DYNAMIC RANGE : 64 DB                            THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  100136
 TEST DURATION =   6:57:14                     STANDBY TIME =   1: 5:18

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 417
PERIOD =  1 MINUTES

TIME          LOSHA                         %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1      70.6      70.6               .850        .85
   2      66.6      68.9               .483       1.34
   3      76.2      72.2              1.845       3.18
   4      64.8      70.9               .378       3.56
   5      73.7      71.6              1.310       4.87
   6      73.3      71.9              1.233       6.10
   7   [illegible]  71.3               .417       6.52
MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
ARITHMETIC MEAN =  65 DB
STD. DEVIATION =   7 DB
VARIANCE = 42 DB
```

⑩

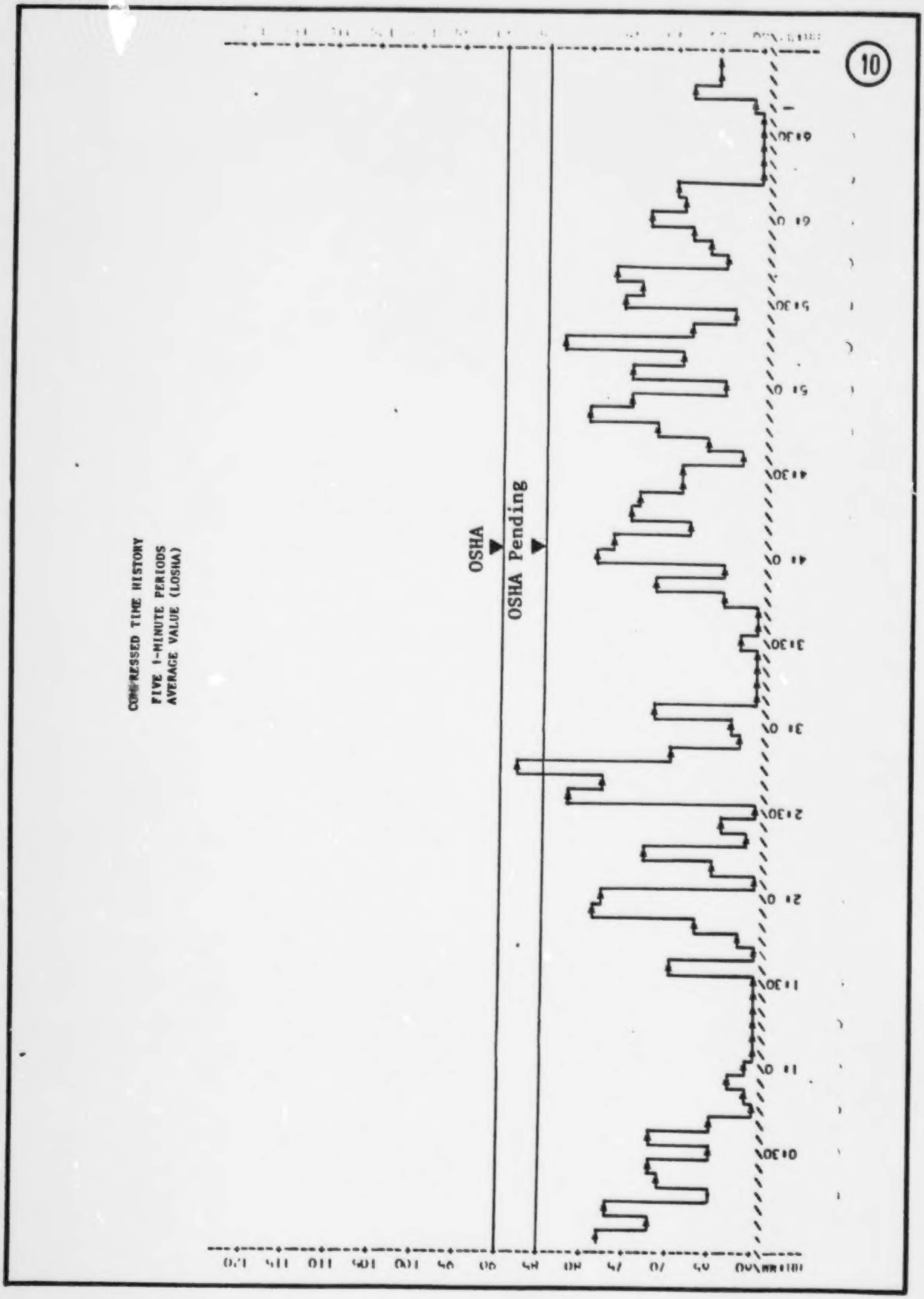


AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
329	68.5	60 TO 64
53	11.0	65 TO 69
41	8.5	70 TO 74
25	5.2	75 TO 79
21	4.4	80 TO 84
8	1.7	85 TO 89
2	.4	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 417


⑩
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
HH:MM/dB
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30

⑪

Machinist

```
ENTER LOG DATE (DD/MM/YR) : 11/06/79

ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 1280
 ENTER JOB CODE (3 CHARS) : 005
  1  26  85  1212   60   64    4    1
   16932       99305  413
  73  75  63  61  70  64  60  72  76  83  81  80  67  77  77  82
  76  76  68  60  61  76  66  83  82  83  81  83  76  79  75  69
  75  81  72  60  65  80  65  60  67  67  60  63  74  67  68  65
  65  82  67  68  60  60  66  60  60  60  70  70  82  77  70  66
  72  65  70  60  78  73  61  65  64  60  72  81  77  60  60  60
  60  60  60  60  60  60  63  63  60  71  74  77  79  77  83  87
  83  71  82  61  78  81  67  80  80  83  60  73  84  87  81  66
  81  79  81  81  70  62  79  78  81  73  76  80  78  60  70  75
  70  60  62  66  75  60  60  75  76  80  69  65  60  62  70  70
  71  62  62  70  68  87  79  60  75  75  79  78  83  72  69  63
  65  70  60  60  64  60  78  67  61  70  60  60  81  61  65  76
  79  77  64  60  61  72  63  70  62  65  77  65  78  81  74  60
  60  60  60  62  60  60  61  61  68  74  62  61  60  60  60  62
  61  63  60  60  68  67  61. 67  62  70  72  60  65  63  60  69
  60  65  70  69  68  60  83  84  84  78  86  66  70  81  65  62
  91  92  90 100  87  90  82  87  94  88  72  93  92  82  69  73
  78  80  83  87  87  77  69  64  65  63  78  65  62  62  90  60
  71  87  75  79  60  60  62  83  83  90  88  86  71  73  67  86
  92  80  67  78  90  83  76  77  87  72  76  81  62  67  78  86
  90  90  82  79  65  83  80  60  69  71  63  87  85  87  60  60
  60  64  72  60  65  68  60  66  66  69  66  60  60  92  96  83
  98  92  98  86  90  99  68  85  83  78  77  84  87  68  61  60
  79  90  92  87  87  85  96  89  82  90  81  62  80  61  71  76
  60  60  60  73  77  69  63  60  61  72  77  74  78  75  72  71
  79  81  75  75  77  74  78  73  60  60  60  64  69  60  70  60
  60  61  69  68  65  80  87  86  68  70  69  77  64  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED :11 JUNE 1979            DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                   SITE CODE : MACSH
  SERIAL NUMBER : 1212                         JOB CODE : 005
       BASELINE : 60 DB                       USER CODE : 1280
  DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =    99305
  TEST DURATION =   6:53:46               STANDBY TIME =    1:10:33

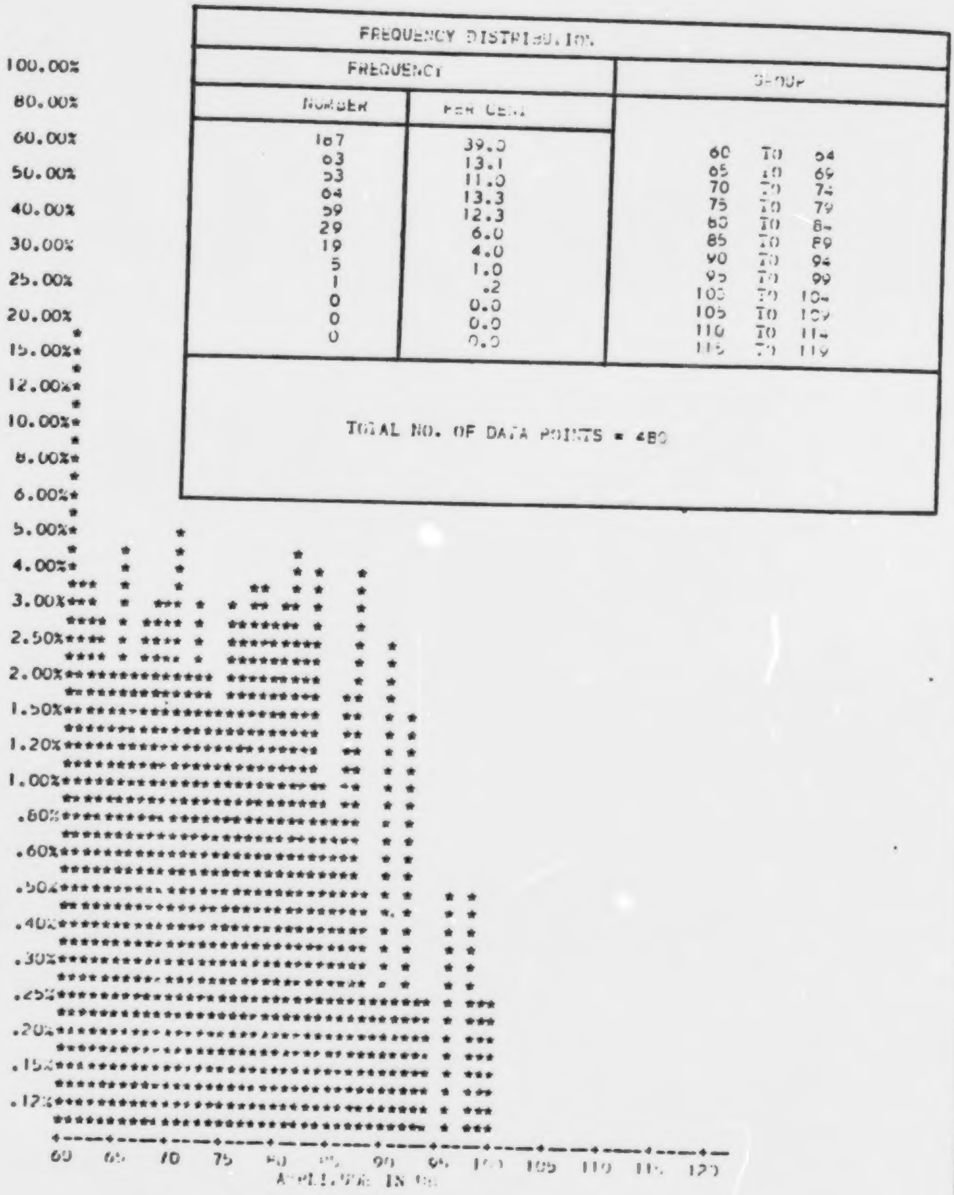
            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 413
 PERIOD =  1 MINUTES

 TIME           LOSHA                        %DOSE
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1       74.4       74.4           1.444       1.44
    2       76.3       75.4           1.667       3.31
    3       73.4       74.8           1.243       4.55
    4       72.3       74.2           1.078       5.63
    5       85.1       78.1           6.315      11.95
    6       85.7       80.0           6.90[illegible]      18.85
    7       75.6       79.6           1.4[illegible]      20.34
 MIN. COMP. =  60 DB               MAX. COMP. = 100 DB
 ARITHMETIC MEAN =  72 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 DB
```

Amplitude Distribution

⑪

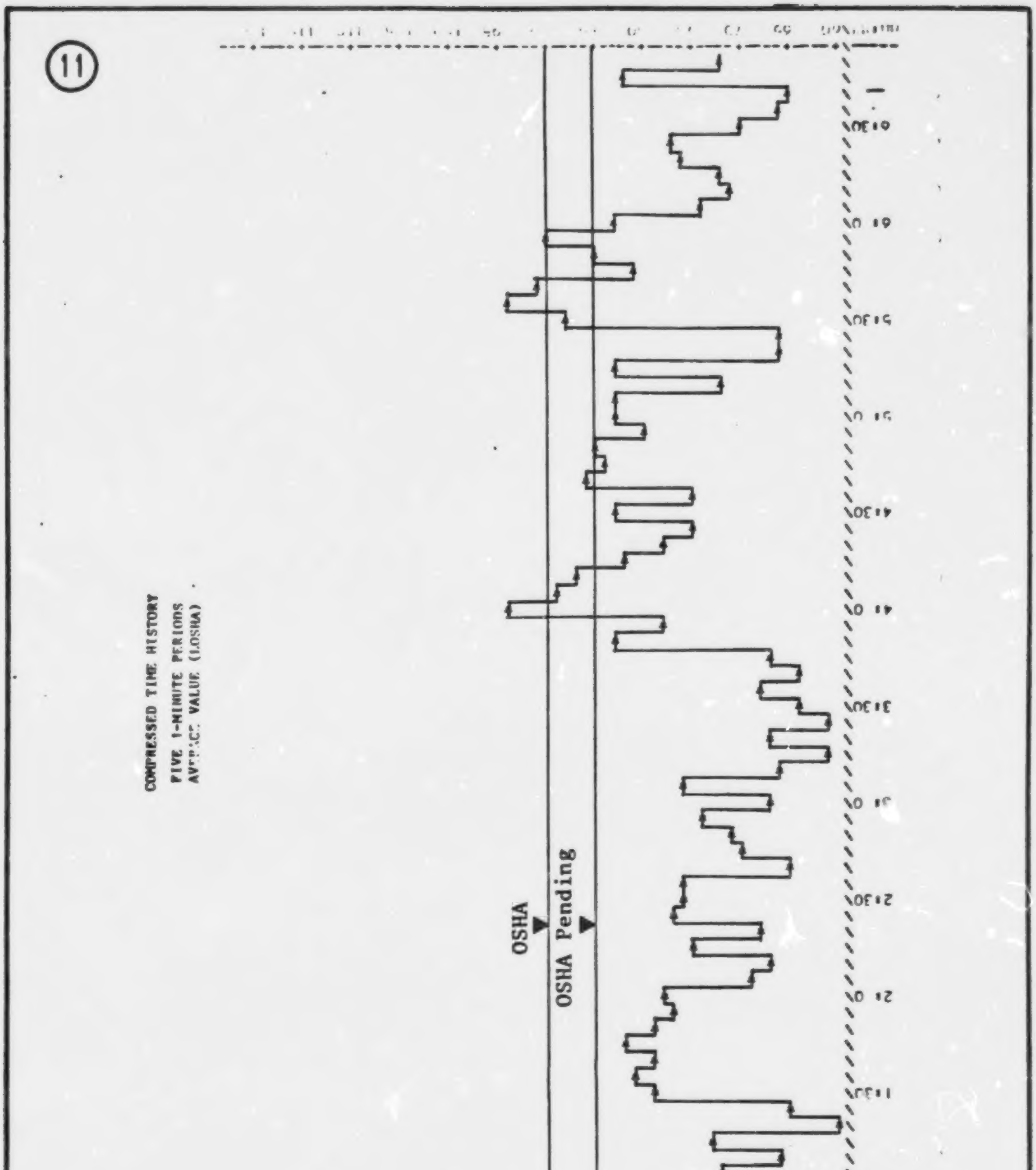


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
187	39.0	60 TO 64
63	13.1	65 TO 69
53	11.0	70 TO 74
64	13.3	75 TO 79
59	12.3	80 TO 84
29	6.0	85 TO 89
19	4.0	90 TO 94
5	1.0	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 413


⑪
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
10:30
11:0
11:30
12:0
12:30
13:0
13:30
14:0
14:30
15:0
15:30
16:0
16:30
65
70
75
80
85
90
95
100
105
110
115
120

⑫

Mechanic

```
ENTER [illegible] : [illegible]
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 4959
 ENTER JOB CODE (3 CHARS) : 031
  1  26  65  1216    60   64     4     1
  20756      93527   389
  69  69  77  60  63  65  63  60  60  61  61  60  60  60  79  67
  61  79  71  66  78  79  72  63  72  77  71  77  68  68  71  73
  64  67  60  70  65  65  64  73  74  77  64  60  60  78  65  67
  65  76  71  60  60  60  60  60  62  61  62  60  74  60  60  60
   46 60  60  60  60  64  63  76  70  73  67  83  79  68  60
  60  60 101  64  62  60  61  63  73  77  61  63  60  65  64  74
  72  66  66  60  60  61  66  71  71  61  60  78  80  60  60  60
  60  60  60  60  75  69  60  61  60  60  68  64  60  60  75  63
  60  65  60  60  61  68  68  66  65  73  79  77  64  64  65  60
  61  70  71  61  61  70  73  82  80  68  63  78  79  76  76  71
  66  61  69  60  60  61  60  60  60  60  60  60  60  60  60  60
  60  60  70  60  60  60  60  60  60  60  60  60  61  60  60  67
  60  60  60  60  60  62  60  60  64  60  60  60  61  68  61  60
  60  68  60  61  61  74  64  60  67  76  83  65  60  71  73  60
  60  60  60  60  72  60  60  60  60  71  68  62  66  76  80  60
  60  60  73  79  78· 60  73  60  60  60  60  60  60  60  60  60
  66  74  74  62  68  60  61  62  71  63  82  72  60  60  62  83
  69  60  60  60  61  60  60  60  60  63  60  64  61  63  80  60
  60  60  60  60  76  72  63  62  71  80  68  60  60  61  61  62
  62  60  60  60  60  63  70  60  61  72  64  60  72  77  75  65
  60  74  72  64  60  68  68  60  60  61  67  61  60  66  76  93
  98  96  95  96  93  97  95 100  66  67  61  61  69  65  65  69
  66  67  68  71  60  71  66  62  69  60  79  72  64  60  60  62
  67  66  65  63  60  60  61  60  63  60  64  69  60  91  98  60
  69  65  65  65  65  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

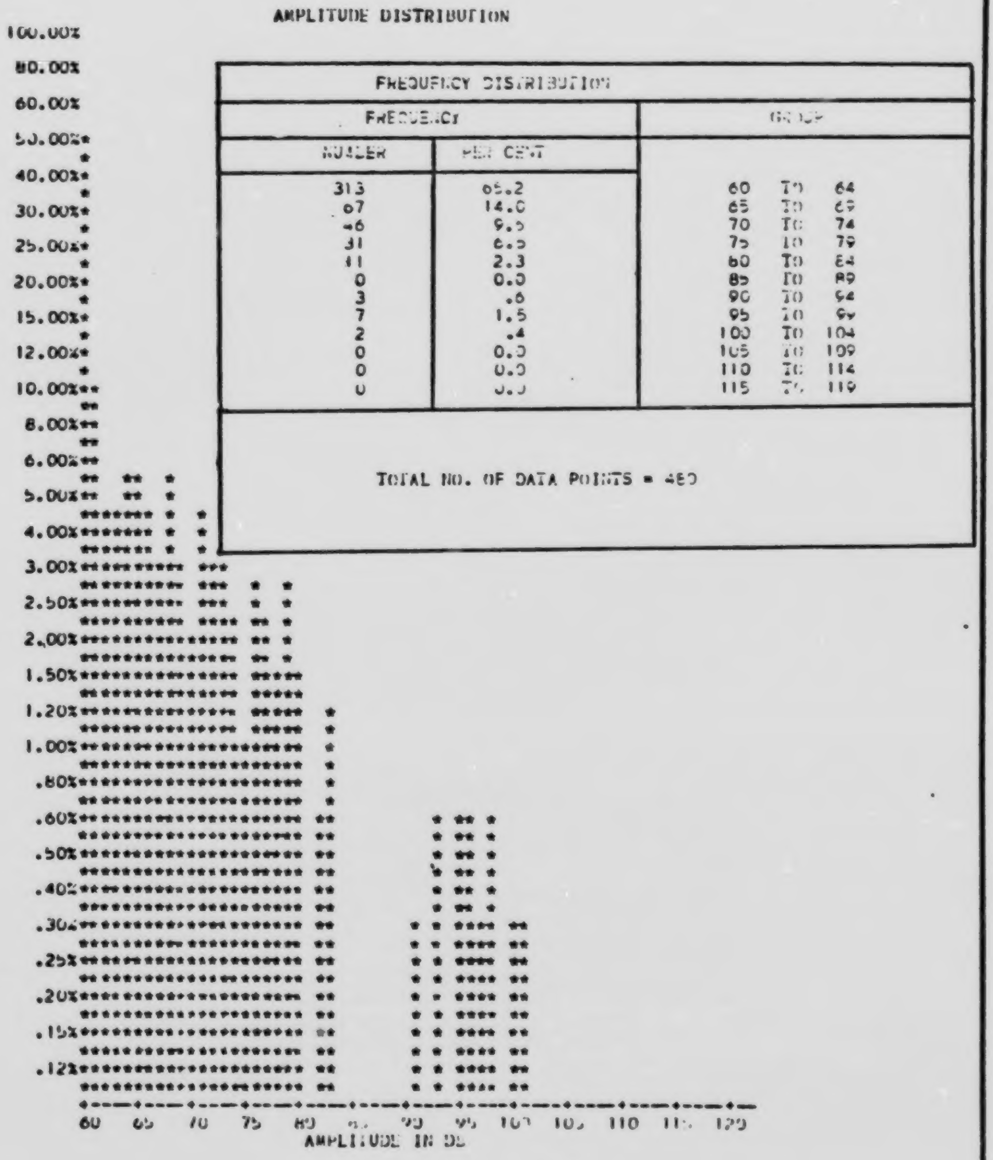
```
   DATA LOGGED :11 JUNE 1979          DATA ANALYZED : 20  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MACSH
 SERIAL NUMBER : 1216                      JOB CODE : 031
      BASELINE : 60 DB                    USER CODE : 4959
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC              TOTAL SAMPLES =   93527
 TEST DURATION =   6:29:41            STANDBY TIME =   1:26:29

        TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 389
PERIOD =  1 MINUTES

TIME          LOSHA                         %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1      69.8       69.8               .764        .76
   2      75.2       73.0              1.601       2.37
   3      69.9       72.1               .766       3.13
   4      66.7       71.1               .494       3.62
   5      69.2       70.7               .702       4.33
   6      83.2       74.9              4.869       9.20
   7      77.5       75.1              1.075      10.27
MIN. COMP. =    0 DB                MAX. COMP. = 101 DB
ARITHMETIC MEAN =  65 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

⑫


AMPLITUDE DISTRIBUTION

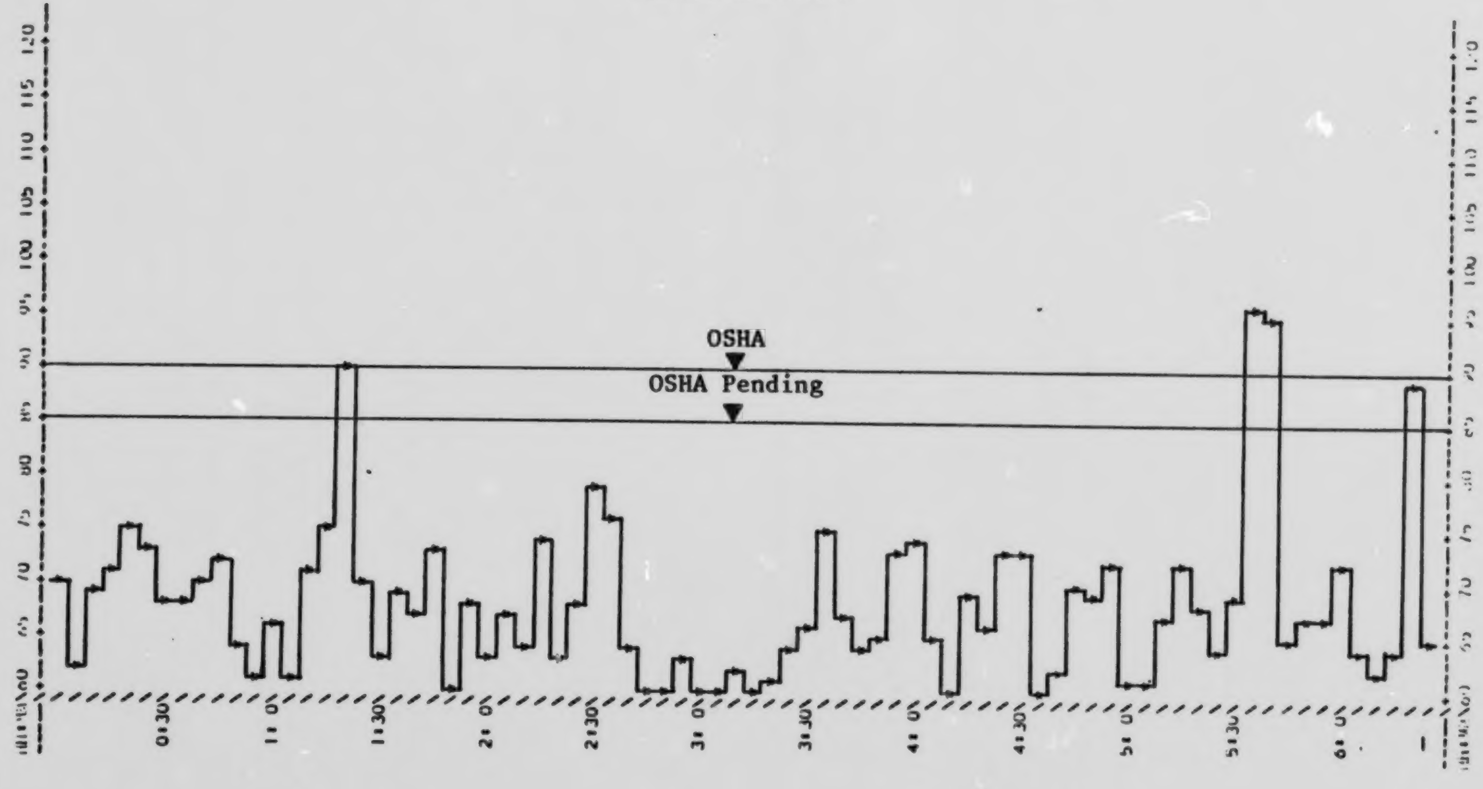
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
313	65.2	60 TO 64
67	14.0	65 TO 69
46	9.6	70 TO 74
31	6.5	75 TO 79
11	2.3	80 TO 84
0	0.0	85 TO 89
3	.6	90 TO 94
7	1.5	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 389

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑫

⑬

Welder

```
ENTER LOG DATE (DD/MM/YR) : 11/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 8389
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1226   60   64    4
   16391      98234   409
   75  61  63  60  78  63  63  71  81  77  69  60  68  66  69  72
   68  60  70  66  73  74  73  77  76  78  77  73  62  63  77  78
   60  60  85  66  79  82  72  60  69  84  63  69  84  67  82  86
   86  67  84  73  70  68  69  72  76  77  76  62  69  85  86  83
   85  60  62  63  60  60  60  60  60  60  60  60  68  65  60  60
   67  62  63  64  60  60  60  67  72  87  85  86  74  80  74  66
   60  64  69  75  65  83  60  61  61  84  65  60  72  69  83  75
   76  71  79  74  60  60  60  64  67  66  62  60  77  73  60  60
   60  60  60  60  69  83  82  74  71  63  68  62  77  75  65  62
   65  67  69  62  78  77  63  64  79  69  82  76  68  73  62  63
   69  70  60  66  74  70  70  60  60  73  73  68  63  60  60  60
   60  60  60  60  60  60  60  60  63  60  60  60  60  60  61  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  61  60  65  82
   82  68  64  76  75  69  78  62  74  75  85  85  80  69  70  71
   77  84  63  62  76  90  86  80  79  85  62  68  77  80  75  60
   84  81  63  87 .67  79  73  60  70  60  60  71  61  63  77  79
   81  77  67  69  73  63  72  65  83  75  76  80  75  68  60  61
   72  85  69  67  68  81  60  78  86  73  80  79  64  65  70  75
   60  65  61  82  75  80  63  74  78  90  91  92  88  90  88  75
   90  91  73  70  71  72  99  92  63  68  74  86  60  60  64  60
   73  93  93  79  83  91  85  72  78  85  87  76  61  60  67  74
   68  75  77  76  65  64  60  60  60  62  66  60  79  82  64  68
   61  69  65  73  60  65  61  60  60  63  60  62  60  68  73  68
   70  63  72  60  64  60  60  67  63  63  60  71  71  63  61  61
   67  61  69  77  75  78  81  80  72  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF




    DATA LOGGED :11 JUNE 1979            DATA ANALYZED : 20  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MACSH
  SERIAL NUMBER : 1226                          JOB CODE : 004
       BASELINE : 60 DB                        USER CODE : 8389
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  65 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   98234
  TEST DURATION =   6:49:18                 STANDBY TIME =    1:16:37

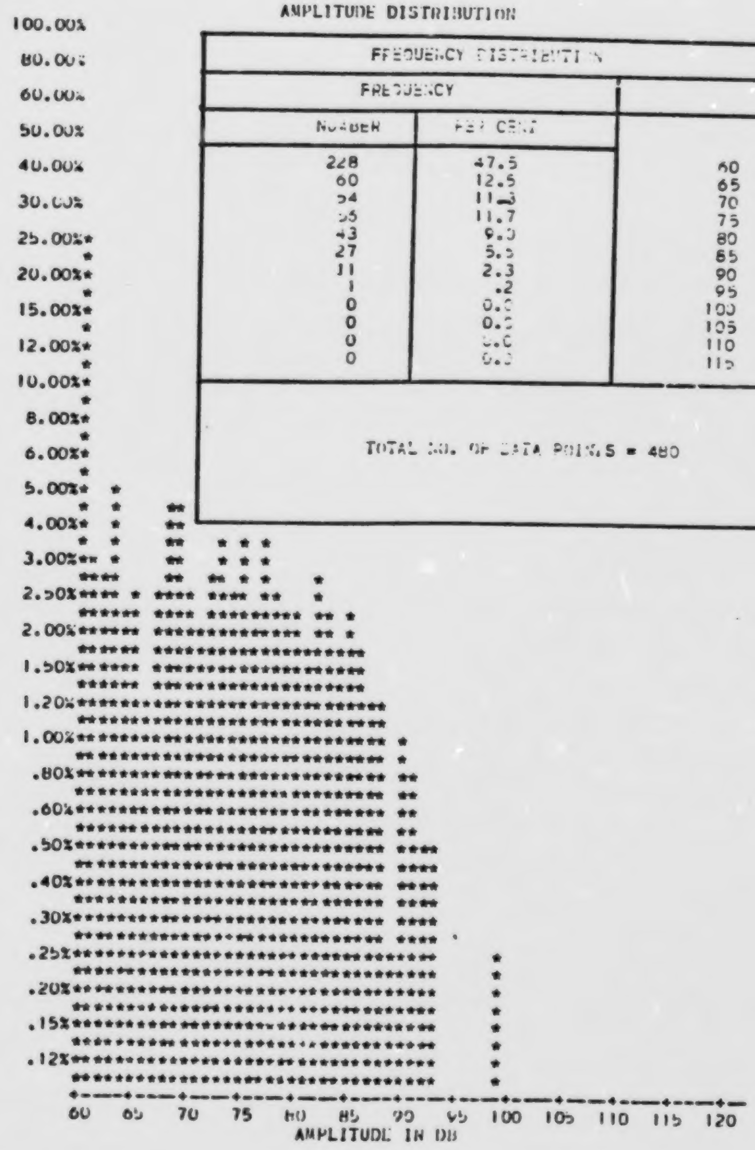
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 409
PERIOD =  1 MINUTES


TIME          LOSHA                         %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       77.9       77.9              2.349      2.35
   2       75.1       76.6              1.577      3.93
   3       70.7       75.2               .863      4.79
   4       69.8       74.1               .758      5.55
   5       78.9       75.4              2.689      8.24
   6       83.2       77.4              4.872     13.13
   7       71.4       76.9               .773     13.90
MIN. COMP. =  60 DB                 MAX. COMP. =  99 DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =    9 DB
VARIANCE = 81 DB
```

⑬

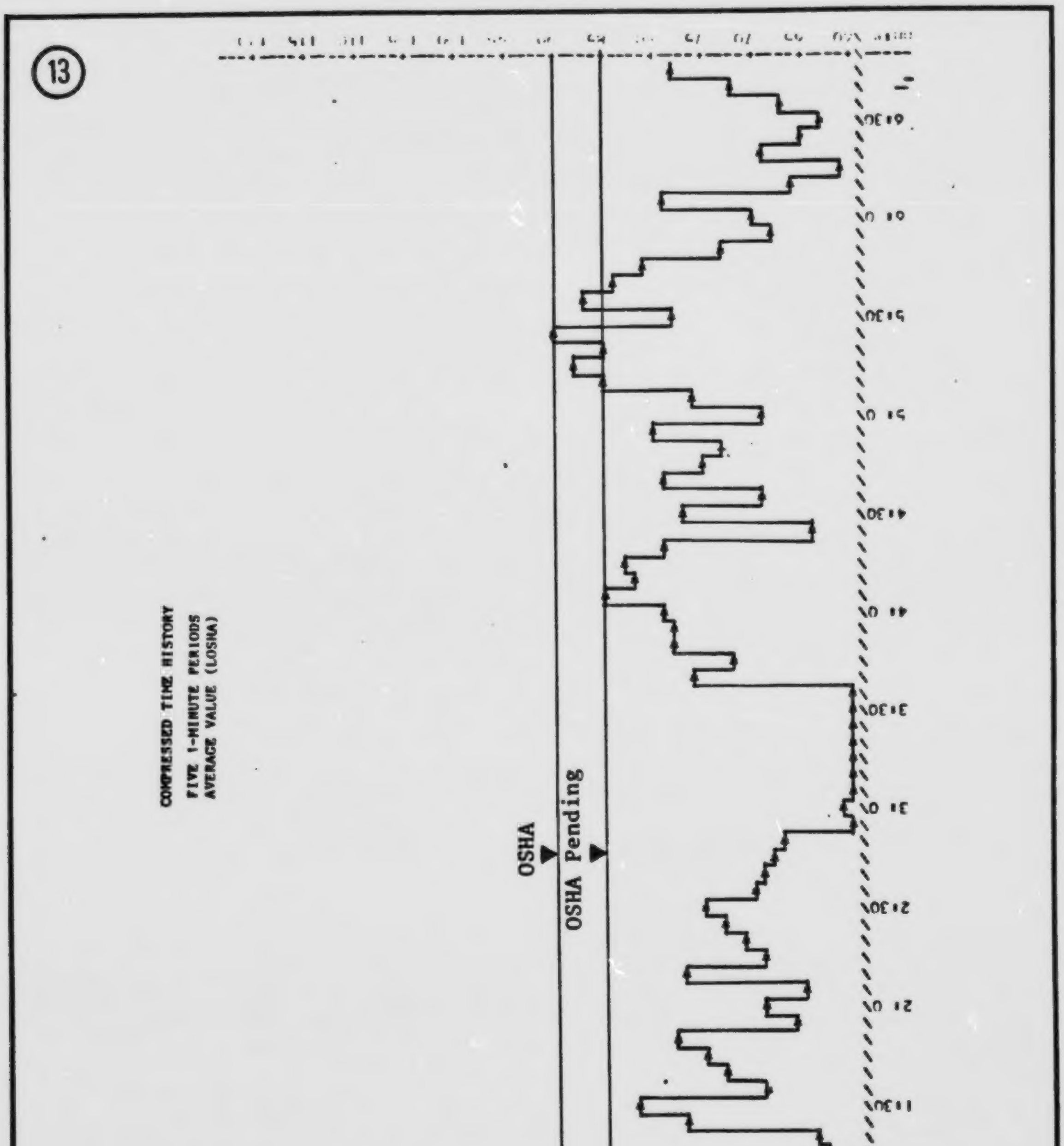
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
228	47.5	60 TO 64
60	12.5	65 TO 69
54	11.3	70 TO 74
56	11.7	75 TO 79
43	9.0	80 TO 84
27	5.6	85 TO 89
11	2.3	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 409


⑬

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30

Welder - ⑭

```
ENTER TODAY DATE (MM/DD/YR) : 1[illegible]/05/79
ENTER SITE CODE (5 CHARS) : NACSH
ENTER USER CODE (4 CHARS) : 6005

 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1220   60   64    4    1
    4646     115200  480
  63  60  63  60  60  60  60  60  60  60  63  60  60  61  66  71
  66  60  69  66  73  66  77  66  76  71  79  81  82  89  74  67
  95 102 100 104  99  79  73  78  71  75  73  60  74  81  89  86
  87  80  82  85  88  74  68  60  60  60  75  60  68  83  94  78
  83  84  86  83  81  70  77  72  74  87  76  65  83  82  80  78
  79  79  80  75  68  75  74  79  62  81  81  89  91  90  87  92
  89  90  82  92  76  79  79  83  83  75  81  81  67  76  68  65
  67  76  76  76  87  77  85  80  72  83  81  76  71  64  67  75
  68  60  68  87  75  79  72  67  79  76  65  74  63  68  70  63
  82  81  83  65  64  66  60  60  60  60  60  60  60  60  60  60
  61  60  74  83  85  88  88  84  82  85  78  82  75  76  75  84
  80  60  68  60  60  60  60  72  73  76  70  66  62  80  71  76
  74  78  84  67  65  67  60  63  75  83  84  86  85  74  79  75
  72  78  79  60  85  93  81  77  77  85  83  87  73  82  74  62
  69  77  85  77  60  77  82  65  84  82  88  84  85  84  87  87
  79  60  63  70  66  70  60  63  60  60  60  60  60  60  64  72
  73  67  71  74  69  65  64  68  60  60  60  60  72  83  88  73
  60  60  63  83  63  75  60  64  69  70  65  60  64  60  69  60
  74  60  60  77  63  60  68  66  64  79  80  76  82  65  74  69
  60  60  64  61  75  80  76  60  83  76  65  80  60  80  73  69
  66  64  82  70  79  74  60  66  61  71  81  77  83  78  61  66
  80  65  77  76  79  66  61  63  66  60  60  60  60  65  72  69
  64  60  60  69  83  82  78  69  62  65  74  75  60  60  60  60
  61  74  65  75  72  60  60  69  60  60  64  60  69  67  62  60
  60  61  60  69  60  61  60  60  60  60  60  60  60  60  60  68
  69  66  63  60  60  60  64  60  61  60  60  60  60  71  60  60
  60  60  60  75  76  70  69  62  60  71  75  65  71  67  69  68
  60  60  60  60  60  60  60  60  65  60  60  60  60  60  65  60
  60  63  60  66  60  62  66  70  61  67  67  69  60  63  66  60
  60  60  63  76  63  69  69  74  83  79  75  75  60  68  68  61
%EOF




   DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : NACSH
 SERIAL NUMBER : 1220                          JOB CODE : 004
      BASELINE : 60 DB                        USER CODE : 6005
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                 STANDBY TIME =   0:19:21

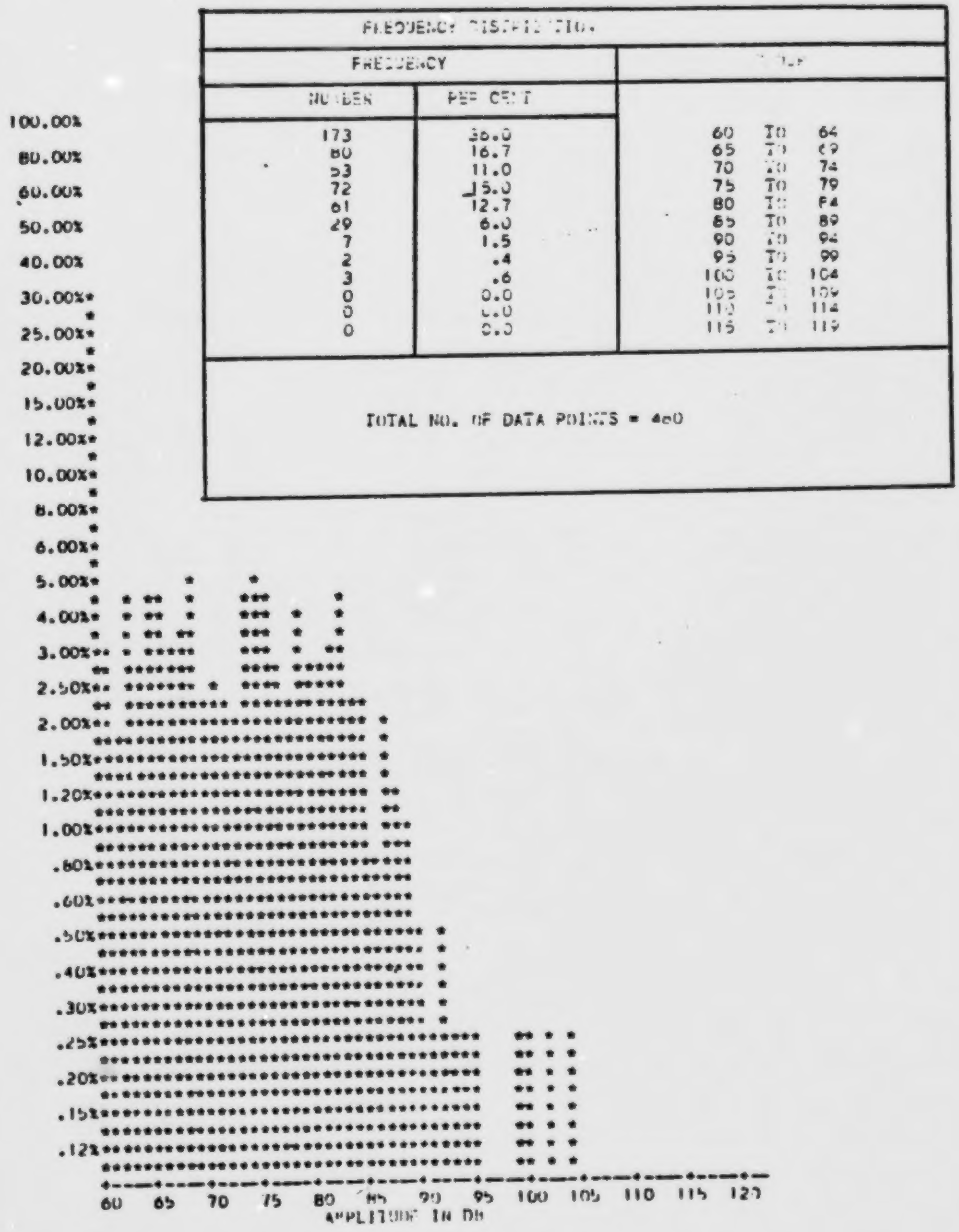
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                    %DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      85.0      85.0          6.273      6.27
   2      82.6      83.9          4.496     10.77
   3      76.9      82.3          2.037     12.81
   4      80.1      81.8          3.164     15.97
   5      71.4      80.6           .943     16.91
   6      74.5      79.9          1.4[illegible]     18.37
   7      65.1      78.9           .394     18.76
   8      68.2      78.2           .606     19.37
MIN. COMP. =  60 DB             MAX. COMP. = 104 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =  10 DB
VARIANCE =100 DB
```

⑭

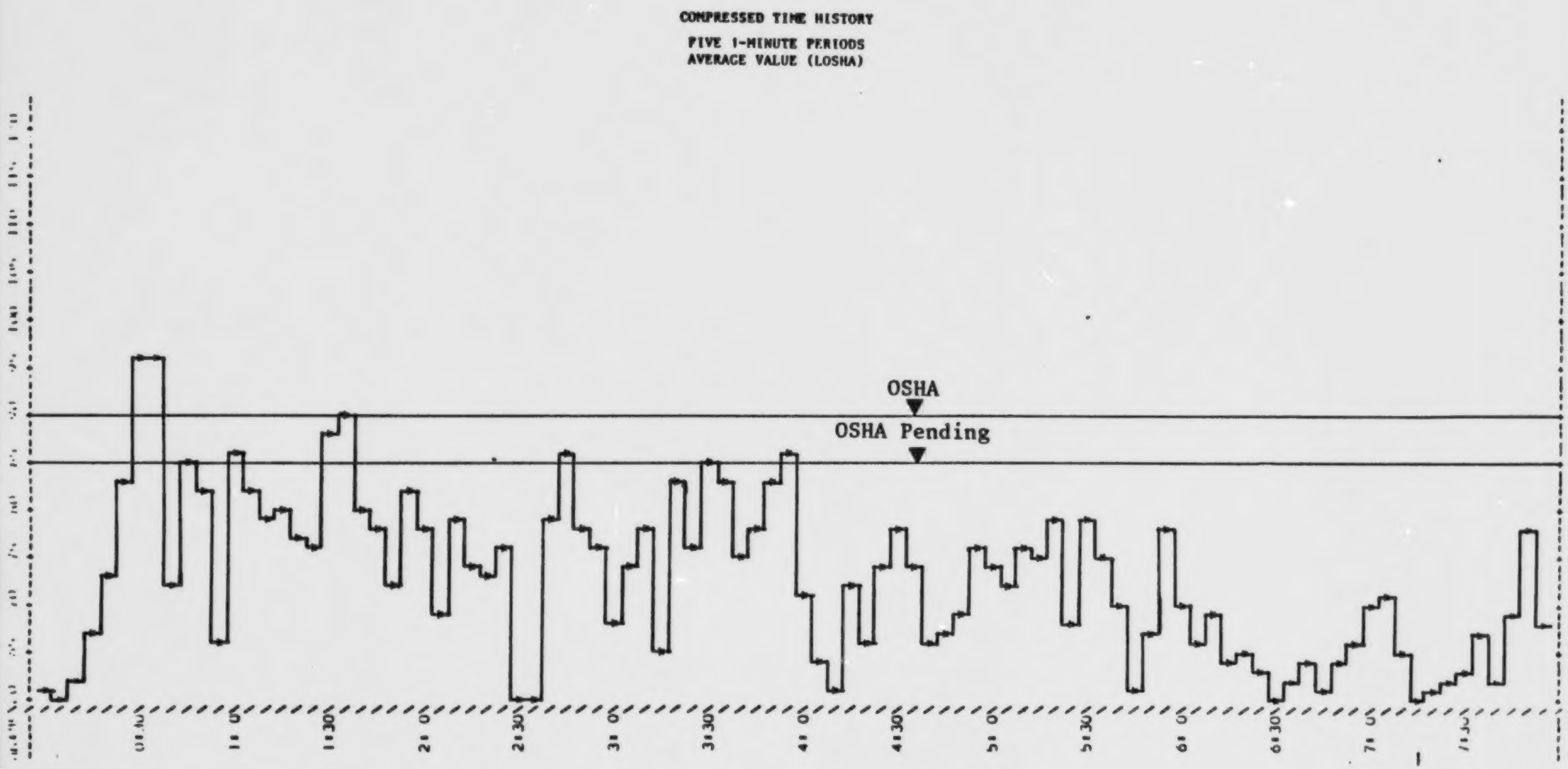
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		[illegible]
NUMBER	PER CENT	
173	36.0	60 TO 64
80	16.7	65 TO 69
53	11.0	70 TO 74
72	15.0	75 TO 79
61	12.7	80 TO 84
29	6.0	85 TO 89
7	1.5	90 TO 94
2	.4	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

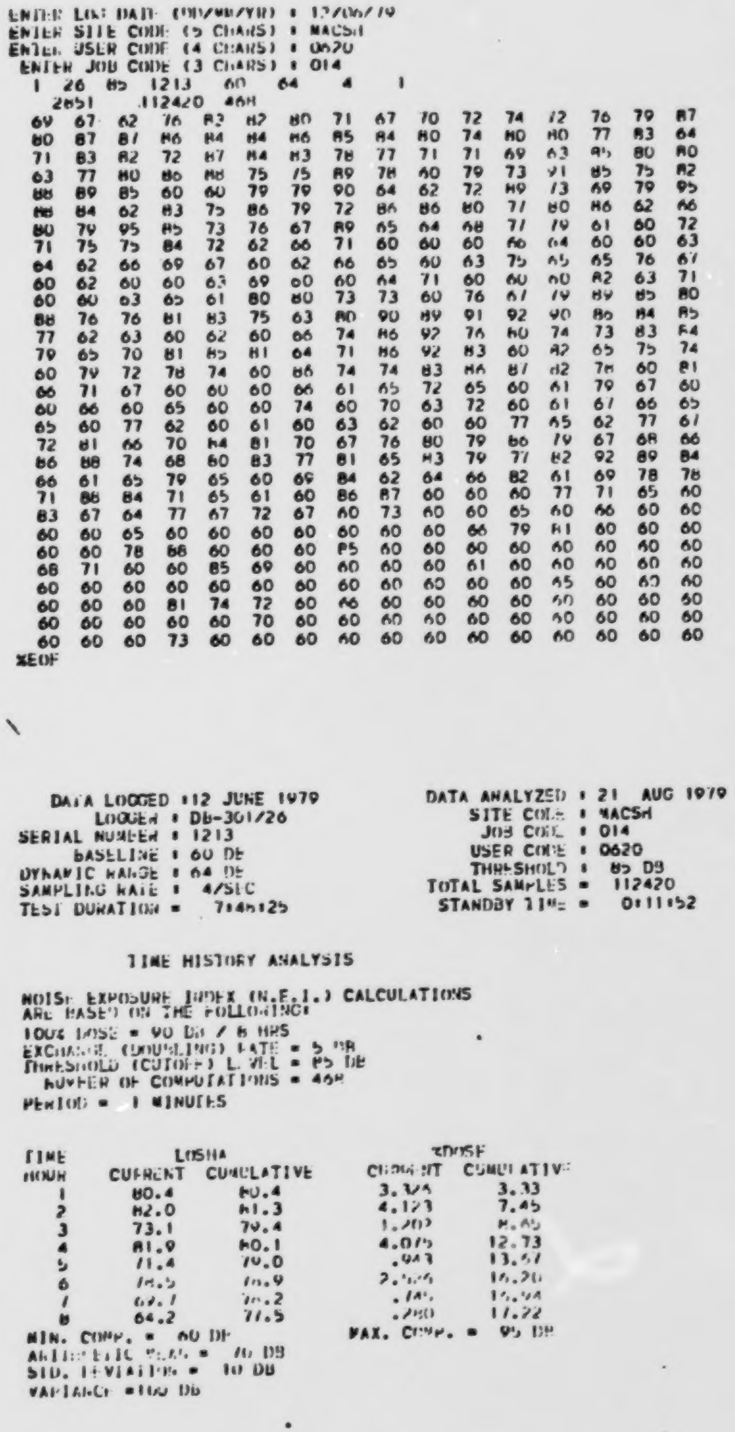
Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

⑭

⑮

Welder –



```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0620
 ENTER JOB CODE (3 CHARS) : 014
  1  26  85  1213   60   64    4    1
   2851    112420  468
   69  67  62  76  83  82  80  71  67  70  72  74  72  76  79  87
   80  87  87  86  84  84  86  85  84  80  74  80  80  77  83  64
   71  83  82  72  87  84  83  78  77  71  71  69  63  85  80  80
   63  77  80  86  88  75  75  89  78  60  79  73  91  85  75  82
   88  89  85  60  60  79  79  90  64  62  72  89  73  69  79  95
   88  84  62  83  75  86  79  72  86  86  80  77  80  86  62  66
   80  79  95  85  73  76  67  89  65  64  68  77  79  61  60  72
   71  75  75  84  72  62  66  71  60  60  60  66  64  60  60  63
   64  62  66  69  67  60  62  66  65  60  63  75  65  65  76  67
   60  62  60  60  63  69  60  60  64  71  60  60  60  82  63  71
   60  60  63  65  61  80  80  73  73  60  76  67  79  89  85  80
   88  76  76  81  83  75  63  80  90  89  91  92  90  86  84  85
   77  62  63  60  62  60  66  74  86  92  76  80  74  73  83  84
   79  65  70  81  85  81  64  71  86  92  83  60  82  65  75  74
   60  79  72  78  74  60  86  74  74  83  86  87  82  78  60  81
   66  71  67  60  60  60  66  61  65  72  65  60  61  79  67  60
   60  66  60  65  60  60  74  60  70  63  72  60  61  67  66  65
   65  60  77  62  60  61  60  63  62  60  60  77  65  62  77  67
   72  81  66  70  84  81  70  67  76  80  79  66  79  67  68  66
   86  88  74  68  60  83  77  81  65  83  79  77  82  92  89  84
   66  61  65  79  65  60  69  84  62  64  66  82  61  69  78  78
   71  88  84  71  65  61  60  86  87  60  60  60  77  71  65  60
   83  67  64  77  67  72  67  60  73  60  60  65  60  66  60  60
   60  60  65  60  60  60  60  60  60  60  66  79  81  60  60  60
   60  60  78  88  60  60  60  85  60  60  60  60  60  60  60  60
   68  71  60  60  85  69  60  60  60  60  61  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  65  60  60  60
   60  60  60  81  74  72  60  66  60  60  60  60  60  60  60  60
   60  60  60  60  60  70  60  60  60  60  60  60  60  60  60  60
   60  60  60  73  60  60  60  60  60  60  60  60  60  60  60  60
%EOF

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    DATA LOGGED :12 JUNE 1979            DATA ANALYZED : 21  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : MACSH
   SERIAL NUMBER : 1213                          JOB CODE : 014
        BASELINE : 60 DB                        USER CODE : 0620
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  112420
   TEST DURATION =    7:46:25                STANDBY TIME =   0:11:52

            TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 85 DB
     NUMBER OF COMPUTATIONS = 468
   PERIOD =  1 MINUTES

   TIME          LOSHA                       %DOSE
   HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
     1       80.4      80.4            3.326      3.33
     2       82.0      81.3            4.123      7.45
     3       73.1      79.4            1.202      8.65
     4       81.9      80.1            4.075     12.73
     5       71.4      79.0             .943     13.67
     6       78.5      78.9            2.526     16.20
     7       69.7      78.2             .746     16.94
     8       64.2      77.5             .280     17.22
   MIN. COMP. =  60 DB                MAX. COMP. =  95 DB
   ARITHMETIC MEAN =  70 DB
   STD. DEVIATION =  10 DB
   VARIANCE =100 DB
```

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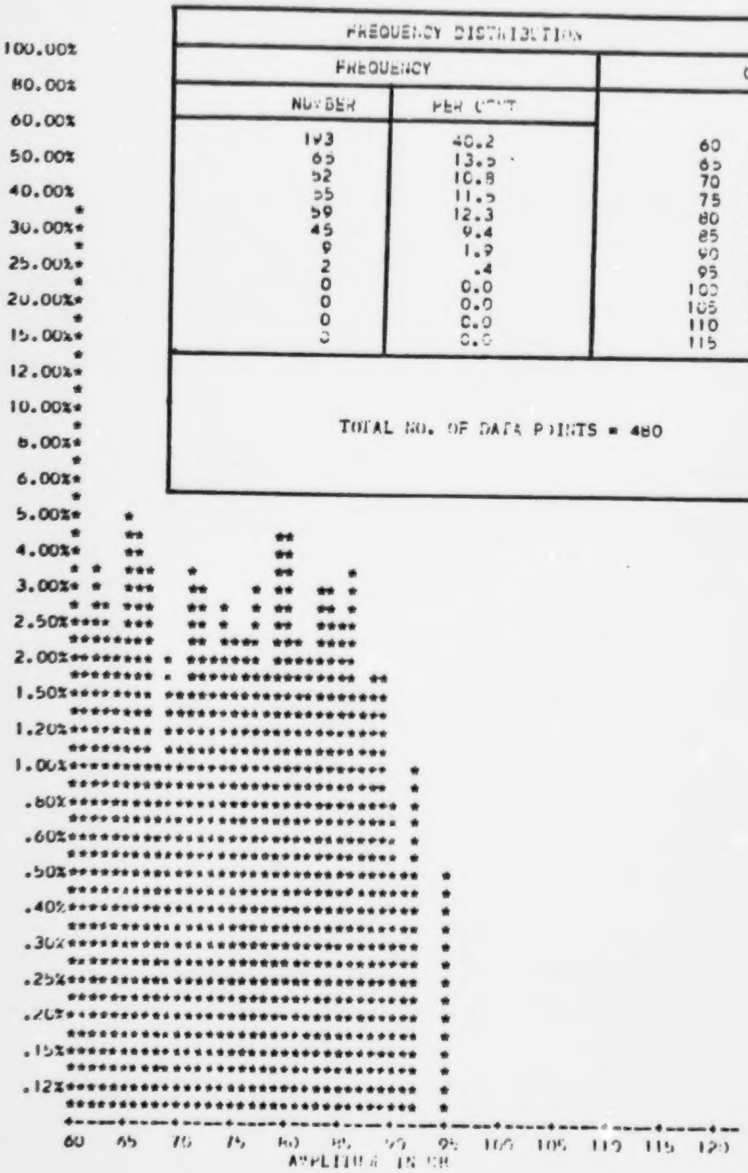
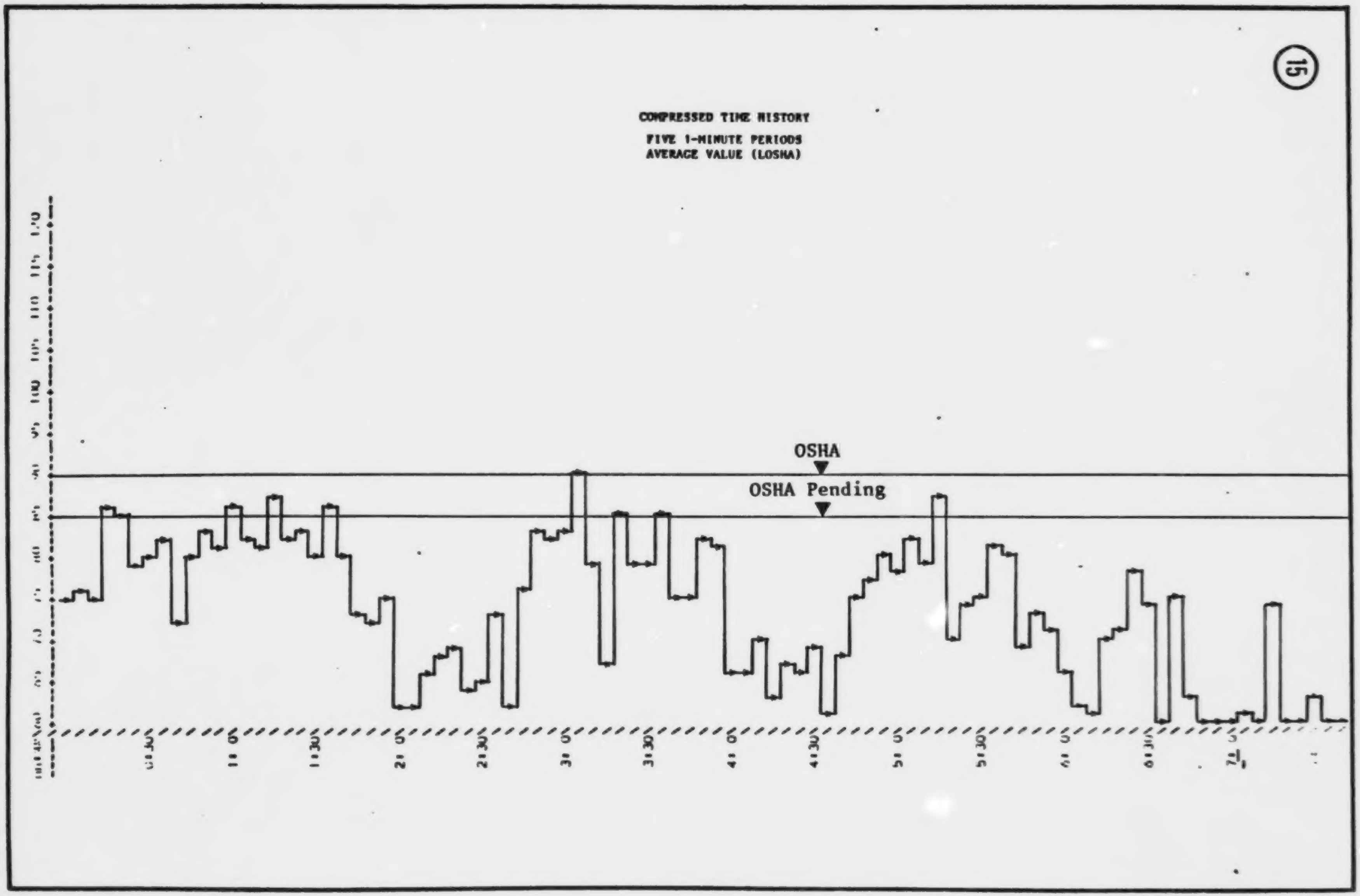
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
193	40.2	60 TO 64
65	13.5	65 TO 69
52	10.8	70 TO 74
55	11.5	75 TO 79
59	12.3	80 TO 84
45	9.4	85 TO 89
9	1.9	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 468



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

Welder - ⑯

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0619
 ENTER JOB CODE (3 CHARS) : 001

  1  26  85  1221   60   64    4     1
   5410     113768  474
 63  67  60  60  60  70  67  64  66  74  63  72  85  71  78  77
 81  78  66  66  66  66  80  81  80  81  82  83  78  79  81  82
 78  72  69  78  61  64  61  72  66  62  66  60  66  63  72  71
 61  63  72  73  63  70  73  69  64  75  60  60  63  60  73  60
 60  71  60  62  61  61  62  70  68  72  66  60  61  61  60  66
 60  60  60  74  67  71  60  60  68  64  60  62  60  69  61  60
 65  73  67  62  61  66  61  60  60  73  60  60  60  73  63  66
 61  60  60  60  60  60  60  75  73  67  73  71  77  71  66  71
 71  63  62  63  70  65  64  60  63  61  63  67  60  60  60  61
 69  60  61  66  60  60  70  69  64  60  72  65  71  60  60  61
 68  71  79  84  86  75  64  60  60  73  73  73  70  79  63  60
 62  65  60  60  60  70  67  71  60  60  60  60  60  60  60  60
 61  61  64  65  67  71  60  69  69  65  73  79  84  77  74  82
 61  66  60  60  61  60  64  60  60  60  60  60  60  60  68  63
 60  76  69  60  60  60  60  71  66  63  73  72  64  60  76  61
 75  60  60  71  64  78  60  60  62  69  81  61  64  60  60  60
 60  60  62  64  62  60  61  60  60  63  68  60  60  73  65  66
 62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  61  63  60  62  60  60  60
 60  60  60  60  71  62  61  75  60  74  64  65  64  61  63  71
 60  69  67  71  60  63  79  76  75  80  87  86  70  74  77  76
 76  76  74  80  68  63  66  78  63  71  72  72  71  69  60  65
 60  66  60  60  60  61  64  60  60  60  60  60  61  79  65  63
 61  70  64  67  69  68  75  73  70  60  69  60  60  60  61  75
 60  60  60  69  93  64  72  60  60  60  60  98  69  65  60  94
 60  60  60  60  60  60  60  60  74  78  64  66  61  96  63  60
 60  60  80  72  60  66  64  69  67  61  60  66  60  60  60  60
 60  60  60  65  64  65  71  60  60  65  68  65  60  66  78  65
 62  60  60  72  66  60  64  70  60  74  60  60  66  63  61  60
 60  60  60  60  60  63  65  60  70  64  60  60  60  60  60  60
%EOF


   DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : MACSH
 SERIAL NUMBER : 1221                          JOB CODE : 001
      BASELINE : 60 DB                        USER CODE : 0619
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  113768
 TEST DURATION =    7:54: 2                STANDBY TIME =   0:22:32

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 474
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      73.9      73.9             1.348      1.35
   2      65.5      70.9              .414      1.76
   3      70.2      70.7              .804      2.57
   4      69.3      70.3              .711      3.28
   5      64.8      69.5              .377      3.66
   6      71.9      70.0             1.029      4.68
   7      77.8      71.8             2.294      6.97
   8      65.0      71.2              .352      7.32
MIN. COMP. =  60 DB                MAX. COMP. =  98 DB
ARITHMETIC MEAN =  6[illegible] DB
STD. DEVIATION =   7 [illegible]
VARIANCE = 49 DB
```

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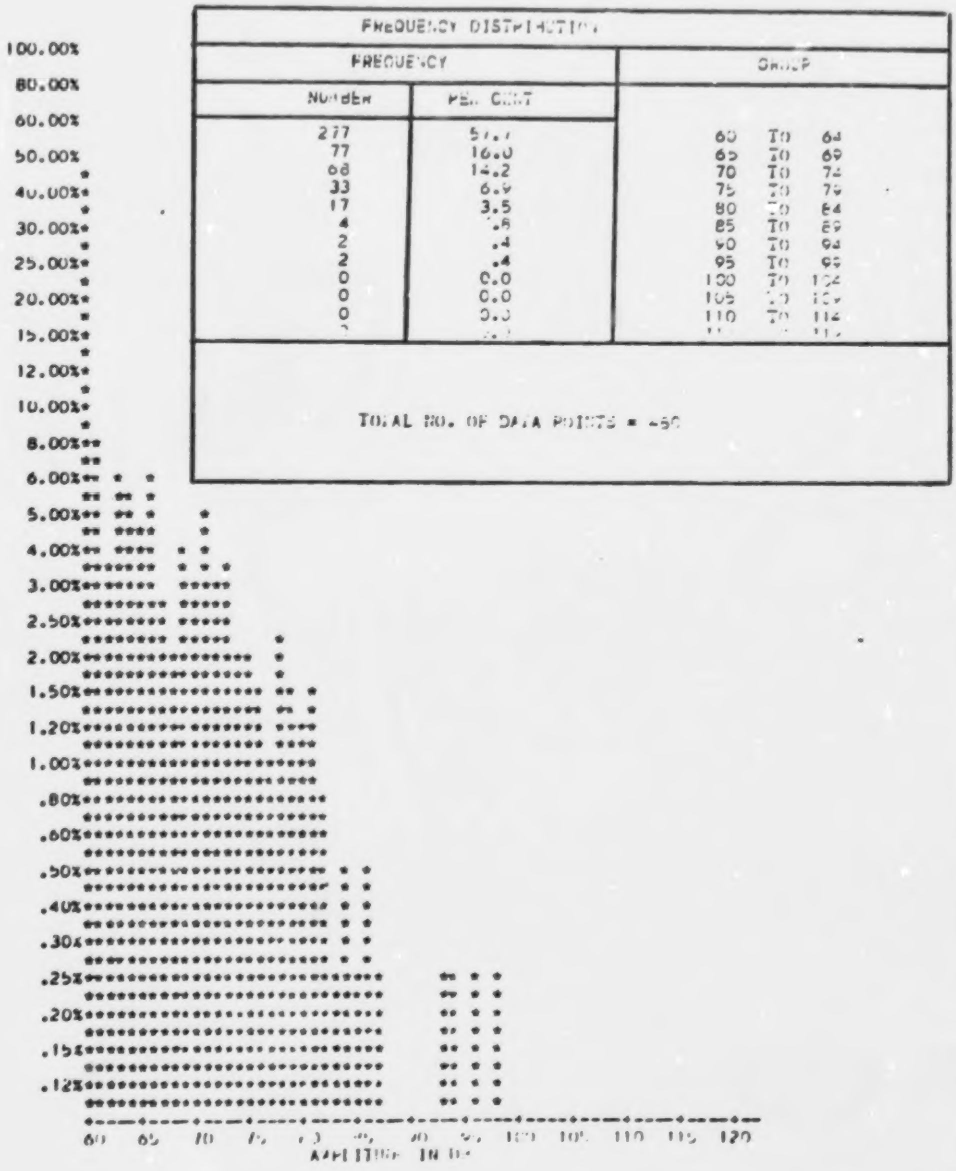
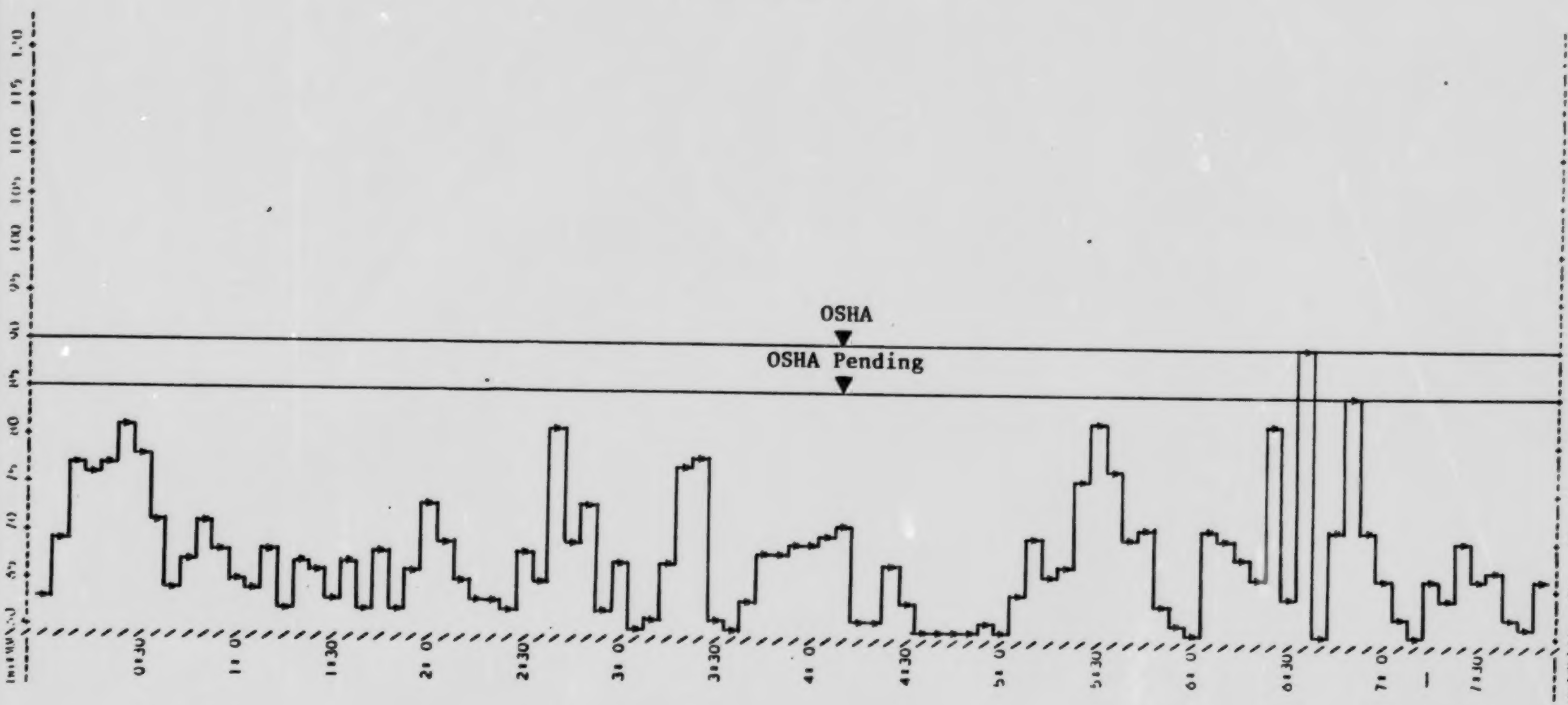
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
277	57.7	60 TO 64
77	16.0	65 TO 69
68	14.2	70 TO 74
33	6.9	75 TO 79
17	3.5	80 TO 84
4	.8	85 TO 89
2	.4	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114

TOTAL NO. OF DATA POINTS = 480

Number of computations = 474



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

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Welder

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 1242
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1224   60   64    4     1
    5762    115200  480
  60  63  60  60  60  60  60  61  73  70  60  67  62  66  60  77
  60  75  76  83  78  77  69  86  85  69  71  74  72  72  89  65
  70  63  70  89  83  86  82  81  80  83  70  71  72  60  68  85
  91  83  86  90  90  92  86  72  78  74  83  82  87  76  75  60
  71  64  72  83  62  86  79  70  78  75  82  87  78  79  81  80
  76  69  60  66  75  85  66  78  76  72  63  84  79  78  72  72
  76  85  81  89  86  90  78  81  89  78  77  65  67  75  90  85
  69  64  84  63  75  78  83  82  80  76  67  84  81  84  79  85
  81  72  67  69  77  82  86  82  80  66  78  82  81  83  79  82
  76  62  77  66  71  62  64  60  60  60  60  60  60  62  60  60
  63  63  60  73  67  84  85  87  87  87  86  77  78  81  69  67
  72  78  86  75  67  70  74  70  64  75  72  74  80  71  78  80
  82  73  70  79  79  85  83  83  87  85  85  81  66  78  88  82
  63  81  64  85  79  82  86  83  71  75  65  67  62  60  60  74
  64  79  82  81  71  80  78  80  81  80  79  73  69  72  63  75
  79  77  60  62  76  72  71  82  84  82  85  71  83  75  83  78
  79  67  83  86  81  73  60  81  84  81  60  73  60  63  62  69
  75  64  60  67  67  60  60  60  60  60  60  60  60  60  60  60
  62  67  63  70  60  70  73  78  78  77  74  72  76  70  60  60
  60  73  71  66  78  85  79  83  76  72  76  65  90  85  86  85
  87  80  79  84  74  65  66  83  72  61  70  73  77  72  76  73
  66  73  71  68  88  88  84  65  79  87  78  86  87  86  60  75
  86  65  83  83  79  84  82  73  69  77  72  85  83  82  81  82
  85  82  82  79  71  72  79  80  60  60  70  60  76  60  72  83
  85  85  83  74  76  76  80  85  79  86  85  72  63  60  76  78
  71  83  89  77  75  72  76  76  81  62  79  85  82  81  77  79
  81  79  80  65  82  83  72  67  67  62  72  60  62  78  75  65
  79  75  84  85  85  75  81  80  81  75  72  74  75  82  76  71
  83  60  60  60  60  65  74  71  68  64  66  65  61  63  69  60
  60  71  68  77  83  84  69  73  82  77  73  81  76  81  80  80
%EOF
```

```
   DATA LOGGED :12 JUNE 1979          DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MACSH
 SERIAL NUMBER : 1224                      JOB CODE : 004
      BASELINE : 60 DB                    USER CODE : 1242
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  65 DB
 SAMPLING RATE :  4/SEC            TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0          STANDBY TIME =   0:24: 0

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
  1       80.1       80.1             3.150       3.15
  2       80.5       80.3             3.342       6.49
  3       78.5       79.7             2.546       9.04
  4       78.8       79.5             2.657      11.69
  5       75.3       78.8             1.620      13.32
  6       80.3       79.1             3.274      16.59
  7       77.5       79.2             2.900      19.49
  8       76.4       78.9             1.845      21.38
MIN. COMP. =  60 DB              MAX. COMP. =  92 DB
ARITHMETIC MEAN =  74 DB
STD. DEVIATION =   [illegible]
VARIANCE = 61 DB
```

Amplitude Distribution

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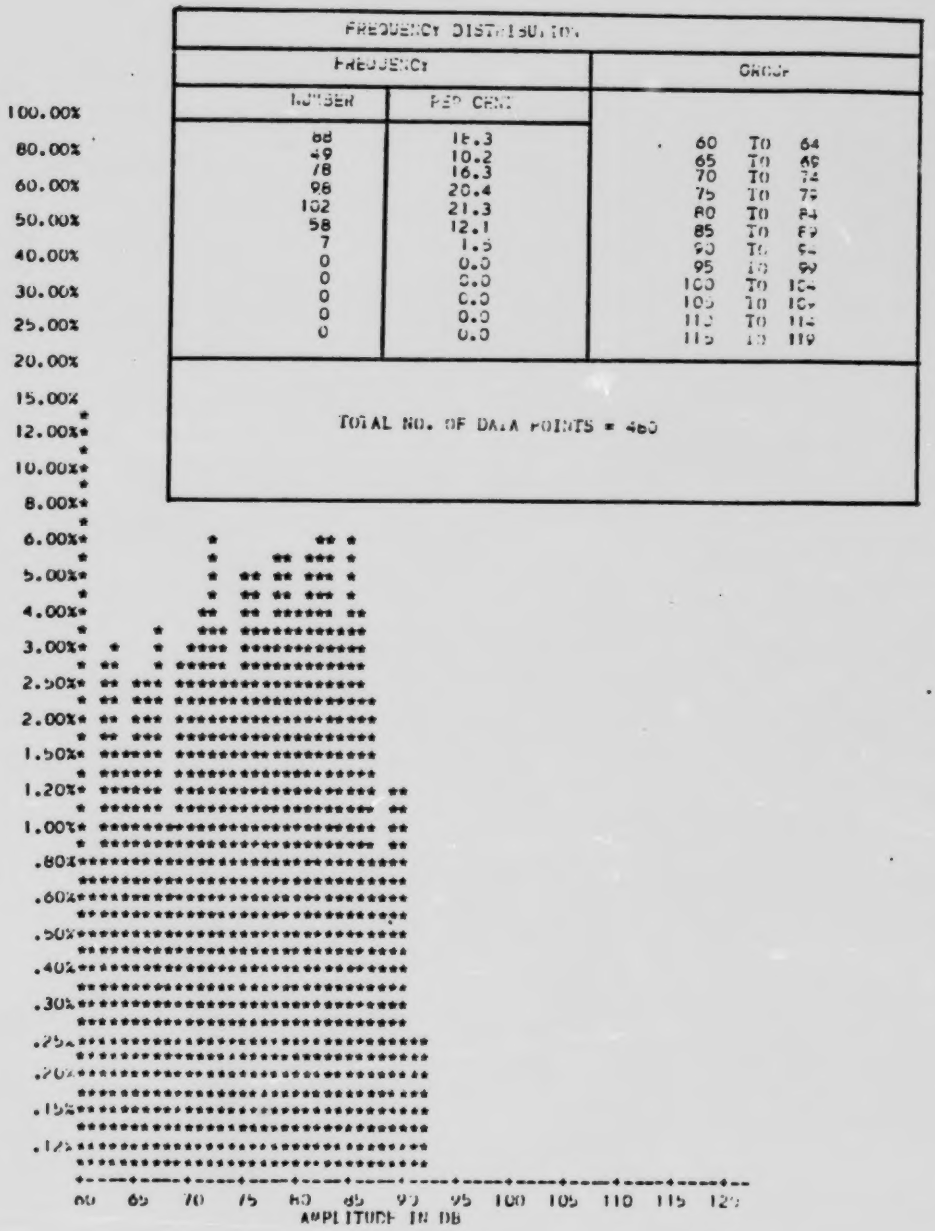

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
88	18.3	60 TO 64
49	10.2	65 TO 69
78	16.3	70 TO 74
98	20.4	75 TO 79
102	21.3	80 TO 84
58	12.1	85 TO 89
7	1.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

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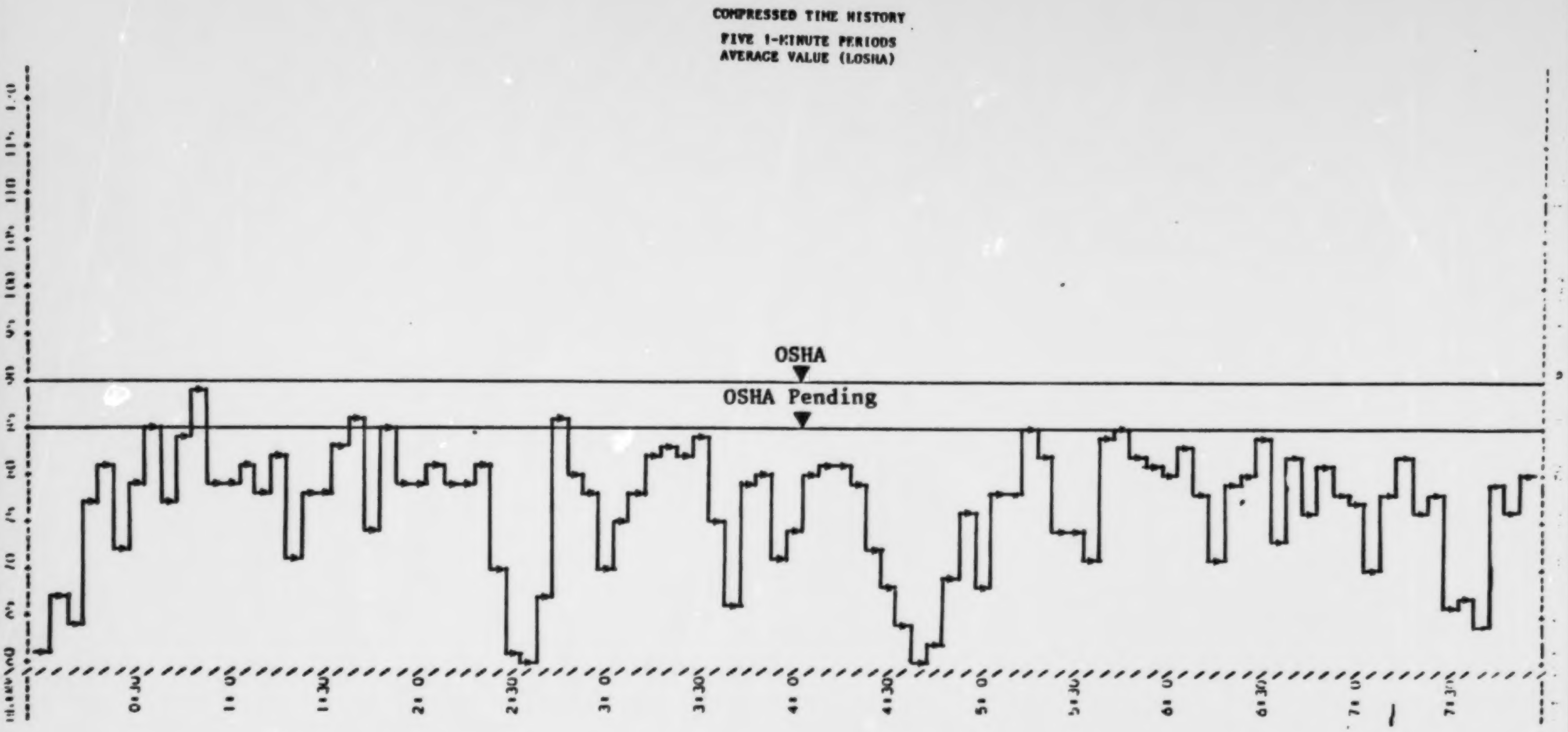

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

Welder – ⑱

```
ENTER LAB DATE (DD/MM/YR) : 12/06/79

ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 0855
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1214   60   64    4    1
      44     115200  480
  60  60  60  63  61  60  62  68  60  60  63  63  70  76  75  74
  76  80  78  74  72  72  70  77  88  65  62  61  74  86  83  86
  84  82  72  83  67  76  73  72  62  78  85  78  81  77  79  82
  82  72  78  70  79  79  63  75  78  77  86  81  76  76  75  82
  82  75  69  72  75  83  76  67  77  73  77  69  64  78  71  84
  63  82  76  80  68  82  84  89  85  84  91  90  80  84  80  88
  70  74  77  79  82  70  74  72  73  71  61  64  70  62  62  70
  83  71  77  75  69  74  78  70  60  60  65  64  60  60  60  62
  61  60  71  60  75  77  75  67  71  65  72  69  67  65  72  60
  60  60  60  60  60  60  60  60  60  60  60  60  62  84  76  77
  82  87  87  85  84  71  77  82  74  66  76  80  74  73  60  63
  73  60  60  64  65  69  63  60  60  63  60  65  60  61  68  60
  60  60  61  60  60  61  60  60  67  60  60  62  60  60  65  60
  60  61  63  62  62  73  68  63  62  70  67  63  60  65  60  75
  60  60  60  60  64  60  70  65  67  74  67  80  73  61  62  64
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  64  64  60  65  60  65  63  67
  77  66  60  61  60  61  60  60  65  60  60  60  66  60  60  66
  69  61  74  77  60  64  70  77  82  80  72  63  60  63  60  74
  71  77  64  63  68  62  64  64  60  60  63  65  78  78  81  66
  78  68  75  74  76  71  68  73  72  71  60  65  75  76  71  69
  69  66  60  65  67  74  70  75  60  60  66  60  67  67  61  62
  64  65  73  62  60  67  60  60  61  60  65  69  65  60  60  72
  70  60  60  62  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  62  62  60  65  60  71  64  60  60  64  60
  76  64  61  61  60  63  64  63  76  69  70  65  66  60  65  67
  61  60  60  60  60  63  60  60  65  65  61  61  60  60  63  60
  61  60  60  64  61  62  60  60  60  60  60  60  60  64  65  62
  61  67  70  64  62  79  72  62  68  68  61  63  83  73  80  80
  74  80  75  70  78  84  64  84  77  68  64  65  62  60  60  76
%EOF


   DATA LOGGED :12 JUNE 1979                DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : MACSH
 SERIAL NUMBER : 1214                            JOB CODE : 004
      BASELINE : 60 DB                          USER CODE : 0855
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0                  STANDBY TIME =   0: 0:11

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1       77.5      77.5              2.197      2.20
  2       79.0      78.3              2.730      4.93
  3       74.7      77.1              1.309      6.24
  4       65.7      75.5               .427      6.6[illegible]
  5       66.7      74.4               .484      7.1[illegible]
  6       70.0      73.8               .776      7.93
  7       64.3      73.0               .3[illegible]4      8.2[illegible]
  8       71.6      72.8               .[illegible]      [illegible]
MIN. COMP. =  60 DB                  MAX. COMP. =  91 DB
ARITHMETIC MEAN =  67 DB
STD. DEVIATION =   8 DB
MEDIAN = 64 DB
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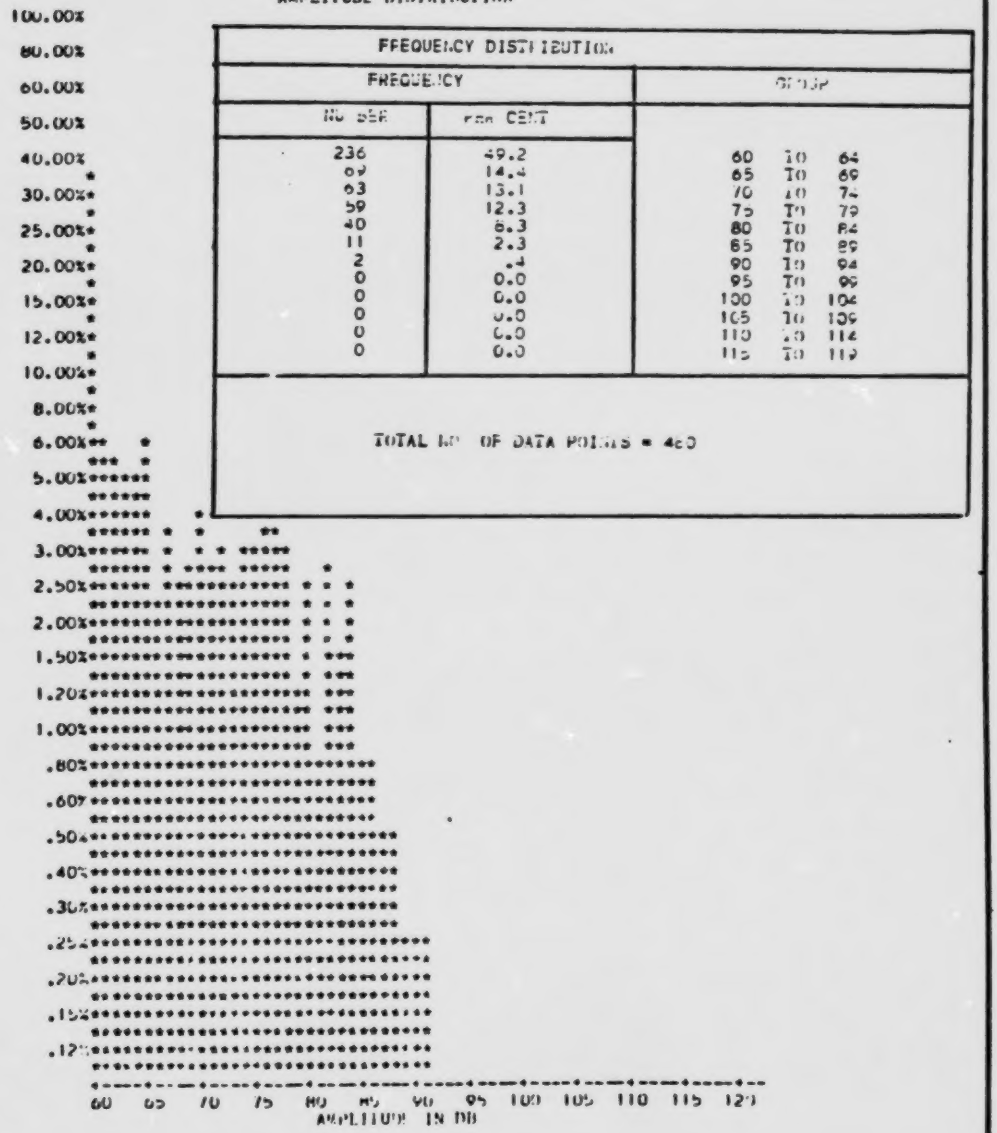
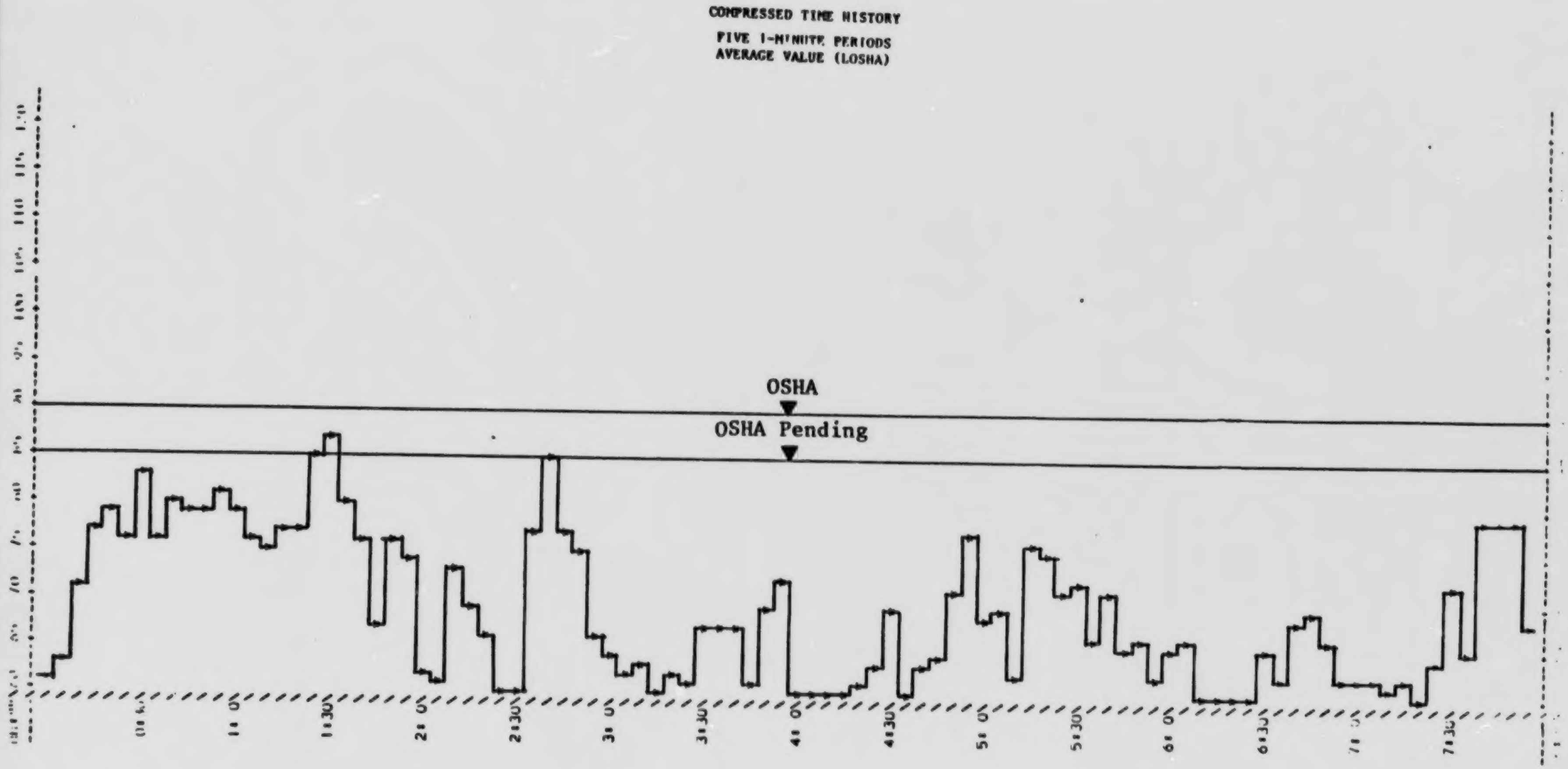
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
236	49.2	60 TO 64
69	14.4	65 TO 69
63	13.1	70 TO 74
59	12.3	75 TO 79
40	8.3	80 TO 84
11	2.3	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

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Welder

```
ENTER LOG DATE (MO/DY/YR) : 12/05/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 2306
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1216   60   64    4    1
   16949     115200  480
  72  60  60  60  61  63  60  60  60  76  77  81  76  78  78  78
  77  82  81  77  82  80  74  73  67  73  85  84  88  87  81  73
  83  80  79  80  66  70  78  75  78  87  91  90  89  93  94  92
  91  91  85  81  87  89  91  93  92  92  91  93  92  91  89  91
  84  83  77  84  85  88  87  85  76  79  82  86  77  78  77  75
  74  71  85  86  90  90  89  90  91  87  86  82  76  77  63  83
  83  86  87  74  68  74  86  86  81  74  75  74  79  83  81  82
  81  67  81  80  82  75  84  84  78  79  75  80  84  84  81  79
  85  85  81  79  83  79  85  83  84  79  81  80  73  73  73  69
  61  68  60  63  73  62  64  71  62  76  83  62  83  88  90  93
  91  87  88  89  86  88  88  87  92  91  89  84  92  88  80  79
  80  60  61  64  90  89  90  89  87  85  83  87  85  89  85  84
  87  85  84  84  89  87  86  86  87  87  87  86  87  87  87  81
  67  75  65  61  64  65  60  64  66  65  64  60  66  69  78  71
  76  66  60  65  68  69  87  84  81  77  70  84  87  87  84  81
  87  84  82  85  84  85  85  80  86  85  83  76  81  77  75  62
  65  68  65  79  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  74  85  86  88  86  85  84  75  81
  79  78  70  82  62  88  85  87  82  77  78  73  79  74  84  81
  78  77  75  77  69  74  73  69  71  68  65  79  74  69  76  81
  81  76  86  84  85  72  79  84  84  82  84  82  88  83  75  63
  67  76  77  90  90  82  78  83  87  92  69  75  65  63  76  60
  61  60  61  67  62  69  82  86  78  81  78  74  77  78  69  74
  76  89  83  79  85  84  83  84  90  90  85  77  86  82  81  80
  82  79  81  85  83  82  88  84  85  82  73  73  77  70  74  63
  68  61  60  61  61  69  61  61  67  65  71  66  60  84  85  85
  88  84  81  67  65  60  61  67  60  60  60  66  64  60  62  62
  62  66  60  61  63  60  68  80  76  60  60  61  69  60  65  68
  74  69  68  68  69  63  75  76  83  60  60  71  80  66  73  66
%EOF
```

```
   DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : MACSH
 SERIAL NUMBER : 1216                          JOB CODE : 004
      BASELINE : 60 DB                        USER CODE : 2306
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8:.0: 0                 STANDBY TIME =   1:10:37

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES


 TIME           LOSHA                        %DOSE
 HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1      84.7       84.7            5.972      5.97
    2      83.9       84.3            5.383     11.35
    3      83.4       84.0            5.004     16.36
    4      83.1       83.8            4.785     21.14
    5      76.5       82.8            1.916     23.06
    6      80.9       82.5            3.517     26.58
    7      80.9       82.3            3.525     30.10
    8      73.2       81.6            1.209     31.31
 MIN. COMP. =  60 DB               MAX. COMP. =  94 DB
 ARITHMETIC MEAN =  76 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 DB
```

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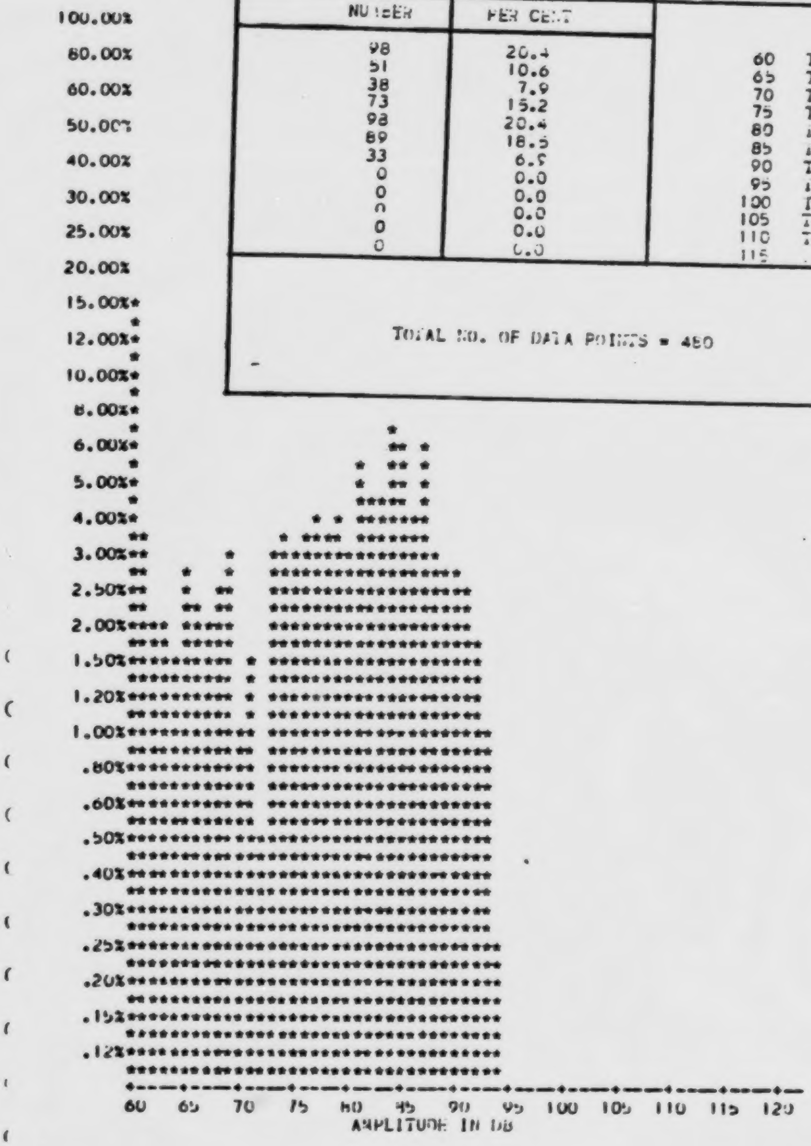
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
98	20.4	60 TO 64
51	10.6	65 TO 69
38	7.9	70 TO 74
73	15.2	75 TO 79
98	20.4	80 TO 84
89	18.5	85 TO 89
33	6.9	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 [illegible]

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

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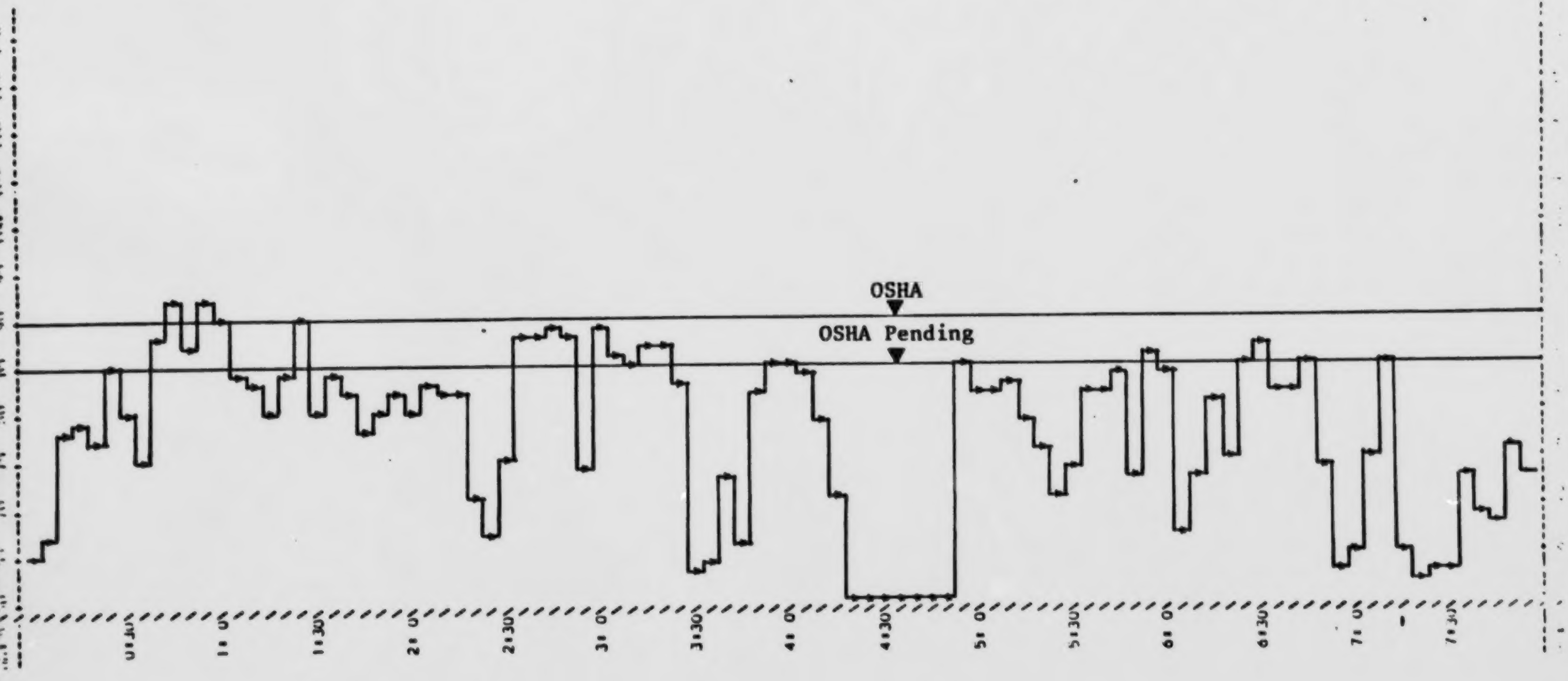
COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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ENTER LOG DATE (MM/DD/YR) : 12/05/79
ENTER SITE CODE (6 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 1146
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1222   60   64    4     1
   13309     114197  475
   61  60  74  67  67  71  73  91  87  82  71  66  71  85  77  75
   72  85  69  71  64  65  77  84  83  84  82  72  82  69  69  67
   61  90  86  66  69  64  67  77  78  83  84  78  68  70  76  75
   75  72  73  79  79  71  76  76  81  78  76  60  75  81  80  74
   73  75  72  73  76  69  73  67  78  71  73  72  74  72  82  76
   67  60  60  72  69  62  82  87  91  91  91  92  83  84  84  81
   86  89  91  92  91  92  91  93  80  91  83  81  70  93  90  92
   81  80  91  93  94  93  94  92  82  79  85  84  80  84  85  79
   82  82  82  85  82  81  81  76  72  75  73  70  60  60  60  60
   60  60  60  60  60  60  60  74  70  83  83  86  86  87  80  77
   81  79  76  78  79  85  83  79  87  88  77  83  83  87  84  80
   86  83  82  82  83  79  82  85  89  80  84  88  91  91  90  90
   87  87  80  77  87  85  83  86  82  81  76  76  82  83  76  78
   79  70  75  71  80  75  79  79  85  78  79  80  79  80  68  73
   73  78  84  88  83  86  88  87  89  87  92  90  89  86  86  79
   81  79  82  86  83  78  82  76  77  81  87  67  69  75  80  65
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  62  60  60  60  60  60  60  60  60
   60  77  61  77  69  84  83  87  70  78  72  80  80  81  78  80
   86  85  80  82  79  78  83  82  77  73  74  82  78  71  78  78
   79  81  72  80  80  76  67  72  83  74  76  76  78  77  76  86
   87  82  64  74  69  60  82  74  76  81  86  78  79  77  74  78
   84  80  80  83  73  65  75  63  69  66  63  82  82  79  76  78
   80  85  92  83  83  88  79  86  75  80  76  76  79  83  83  81
   85  89  91  87  90  91  88  84  87  86  83  87  90  84  85  87
   79  80  77  76  82  76  79  63  80  81  74  64  65  77  84  79
   78  85  83  78  88  84  83  82  82  85  89  90  92  93  92  82
   85  82  70  73  72  67  75  65  67  60  65  60  60  63  69  64
   64  60  69  60  61  70  64  62  75  78  81  78  75  80  78  60
   86  86  81  79  68  82  64  66  80  89  60  60  60  60  60  60
%EOF




   DATA LOGGED :12 JUNE 1979            DATA ANALYZED : 21  AUG 1979
         LOGGER : DB-301/26                   SITE CODE : MACSH
  SERIAL NUMBER : 1222                         JOB CODE : 004
       BASELINE : 60 DB                       USER CODE : 1146
  DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  114197
  TEST DURATION =   7:55:49               STANDBY TIME =   0:55:27

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 475
PERIOD =  1 MINUTES


TIME          LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       78.0       78.0           2.354      2.35
   2       86.0       83.1           7.220      9.57
   3       80.7       82.4           3.451     13.02
   4       84.2       82.9           5.597     18.62
   5       75.4       81.9           1.647     20.27
   6       79.2       81.5           2.789     23.06
   7       83.2       81.8           4.851     27.91
   8       81.0       81.7           3.300     31.21
MIN. COMP. =  60 DB                 MAX. COMP. =  94 DB
ARITHMETIC MEAN =  76 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

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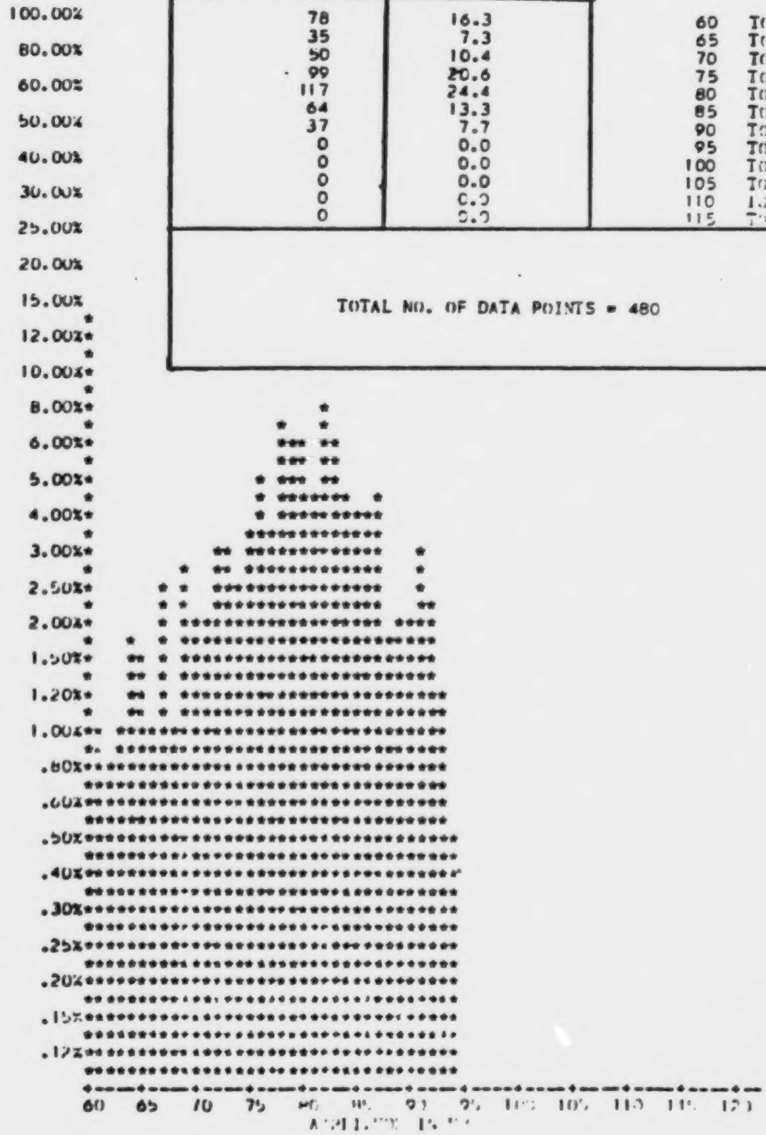
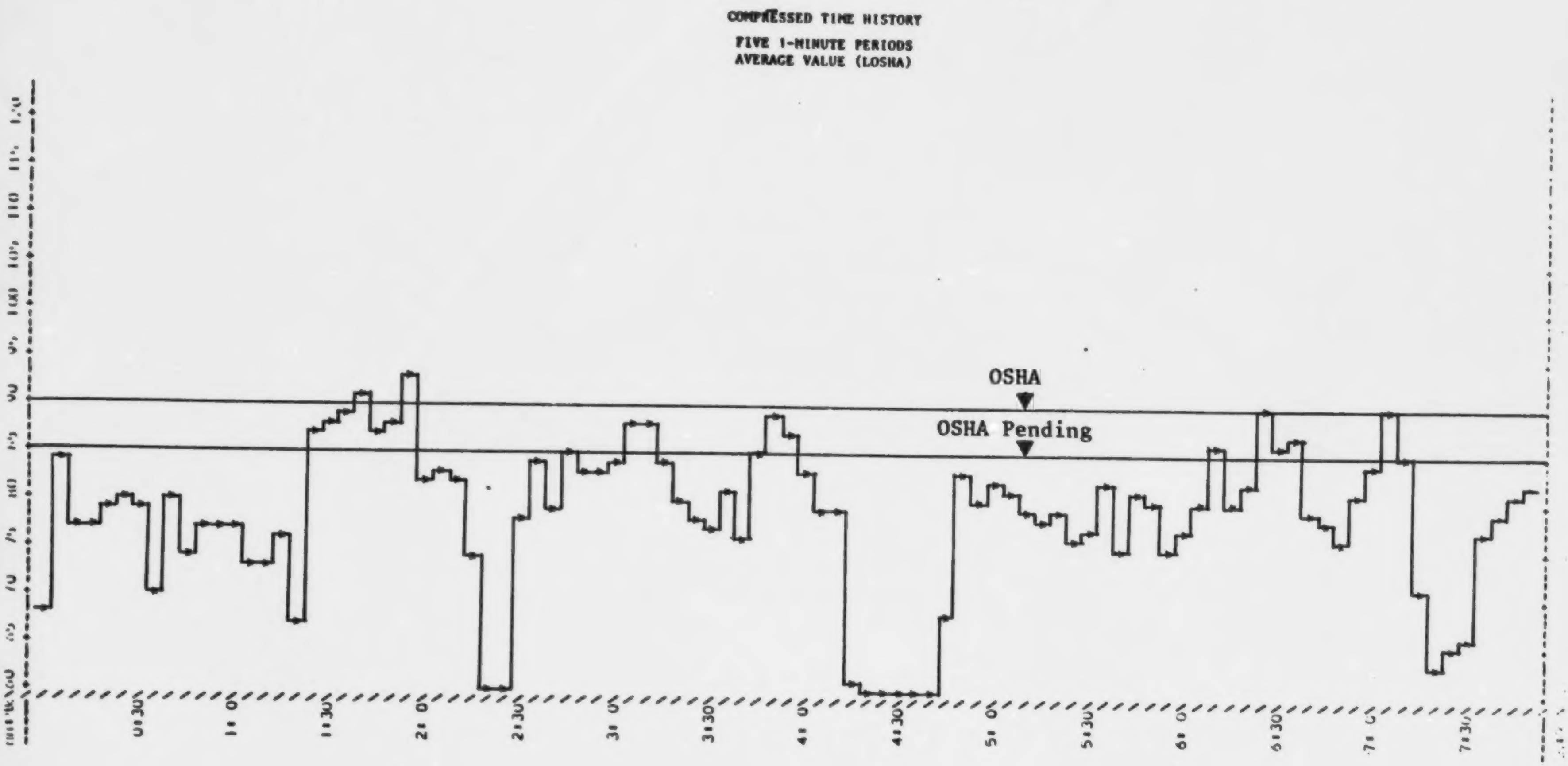
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
78	16.3	60 TO 64
35	7.3	65 TO 69
50	10.4	70 TO 74
99	20.6	75 TO 79
117	24.4	80 TO 84
64	13.3	85 TO 89
37	7.7	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		



Number of computations = 475



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

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ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 2529
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1226    60   64     4    1
   14579     115200  480
  64  61  60  60  60  60  60  62  60  60  63  60  70  61  64  73
  67  77  64  86  66  60  60  60  70  80  85  86  88  87  87  86
  60  60  62  61  64  78  65  74  80  82  81  77  68  67  79  85
  83  84  83  77  80  75  70  63  61  73  83  86  90  89  89  83
  83  76  66  68  86  83  83  78  74  81  86  72  77  76  73  76
  74  82  85  87  83  87  90  87  78  78  85  93  70  68  84  81
  67  78  68  69  60  70  81  76  83  77  75  75  73  73  74  82
  76  73  62  76  79  84  80  70  75  81  84  77  83  80  81  85
  84  81  78  81  81  77  68  69  63  75  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  66  76  80  74  83  83
  84  60  65  73  66  64  70  86  85  84  69  86  85  75  68  65
  61  74  64  60  72  74  74  60  62  60  60  87  84  60  60  71
  70  61  60  76  71  67  74  87  86  85  80  86  88  92  88  77
  75  72  78  70  78  76  69  75  77  75  81  82  85  83  83  88
  81  83  71  77  71  77  75  77  69  68  64  66  60  68  77  70
  72  68  70  80  80  78  60  68  71  83  72  81  78  72  72  66
  73  60  60  62  60  60  60  61  60  60  60  60  60  60  60  60
  60  60  60  60  61  61  60  62  60  60  60  60  62  60  60  60
  60  60  65  60  60  60  61  64  64  61  62  60  60  61  72  73
  71  69  60  80  82  82  82  78  78  73  65  63  67  69  72  62
  65  69  74  65  75  60  60  60  60  67  76  74  60  60  60  73
  60 102  98 101  63  69  69  84  84  86  87  86  79  67  65  87
  71  86  82  86  87  88  67  86  88  82  72  69  79  63  62  63
  64  65  62  65  77  71  82  77  81  78  75  70  72  78  74  71
  80  81  82  82  86  82  83  89  87  84  83  85  81  83  80  80
  80  81  80  80  77  84  79  82  78  61  85  89  74  76  76  69
  73  60  64  77  67  64  64  80  77  79  80  61  76  60  79  78
  79  80  76  77  66  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  67  65  66  70  72  60  74  60  73
  60  71  66  74  72  67  76  67  68  71  87  99  60  70  60  67
%EOF




   DATA LOGGED :12 JUNE 1979          DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MACSH
 SERIAL NUMBER : 1226                      JOB CODE : 004
      BASELINE : 60 DB                    USER CODE : 2529
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC           TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0         STANDBY TIME =    1: 0:44

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                         %DOSE
 HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       77.9       77.9            2.338       2.34
    2       81.4       79.9            3.817       6.16
    3       76.7       79.0            1.982       8.14
    4       79.3       79.1            2.823      10.96
    5       68.4       77.8             .623      11.58
    6       83.4       79.1            5.011      16.59
    7       79.7       79.2            3.016      19.71
    8       75.5       78.8            1.6[illegible]      21.2[illegible]
 MIN. COMP. =  60 DB               MAX. COMP. = 102 DB
 ARITHMETIC MEAN =  72 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 DB
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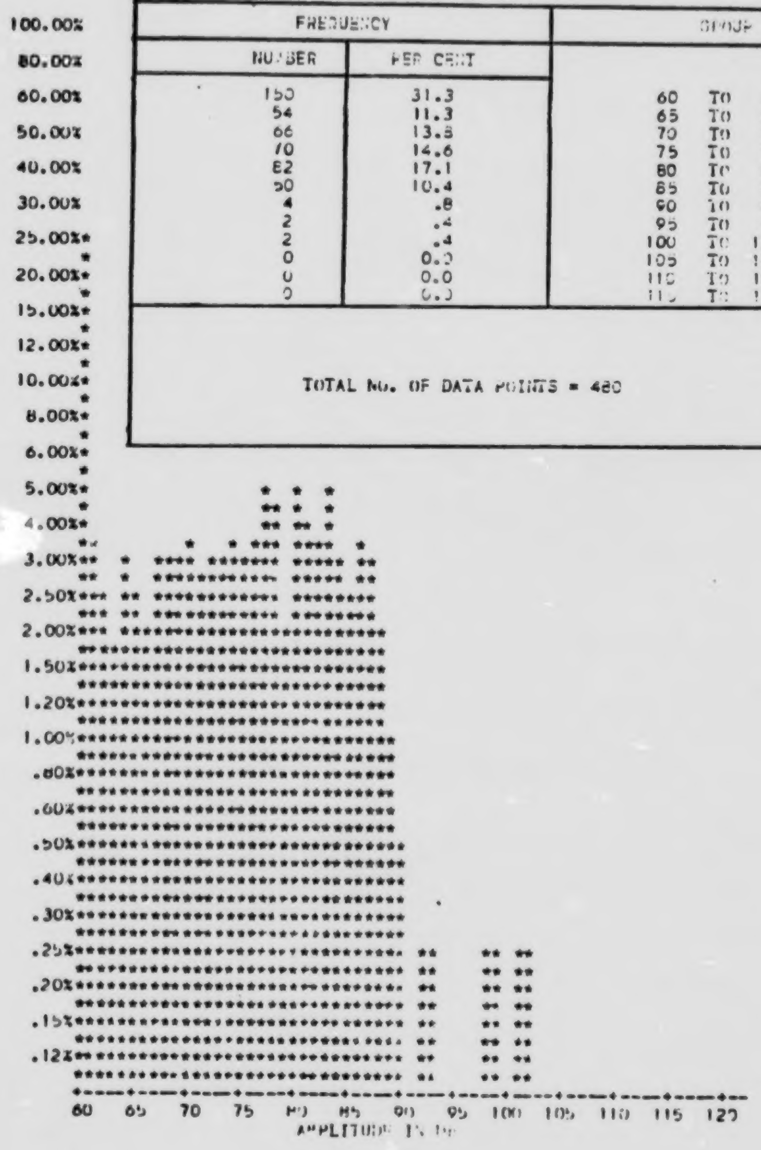
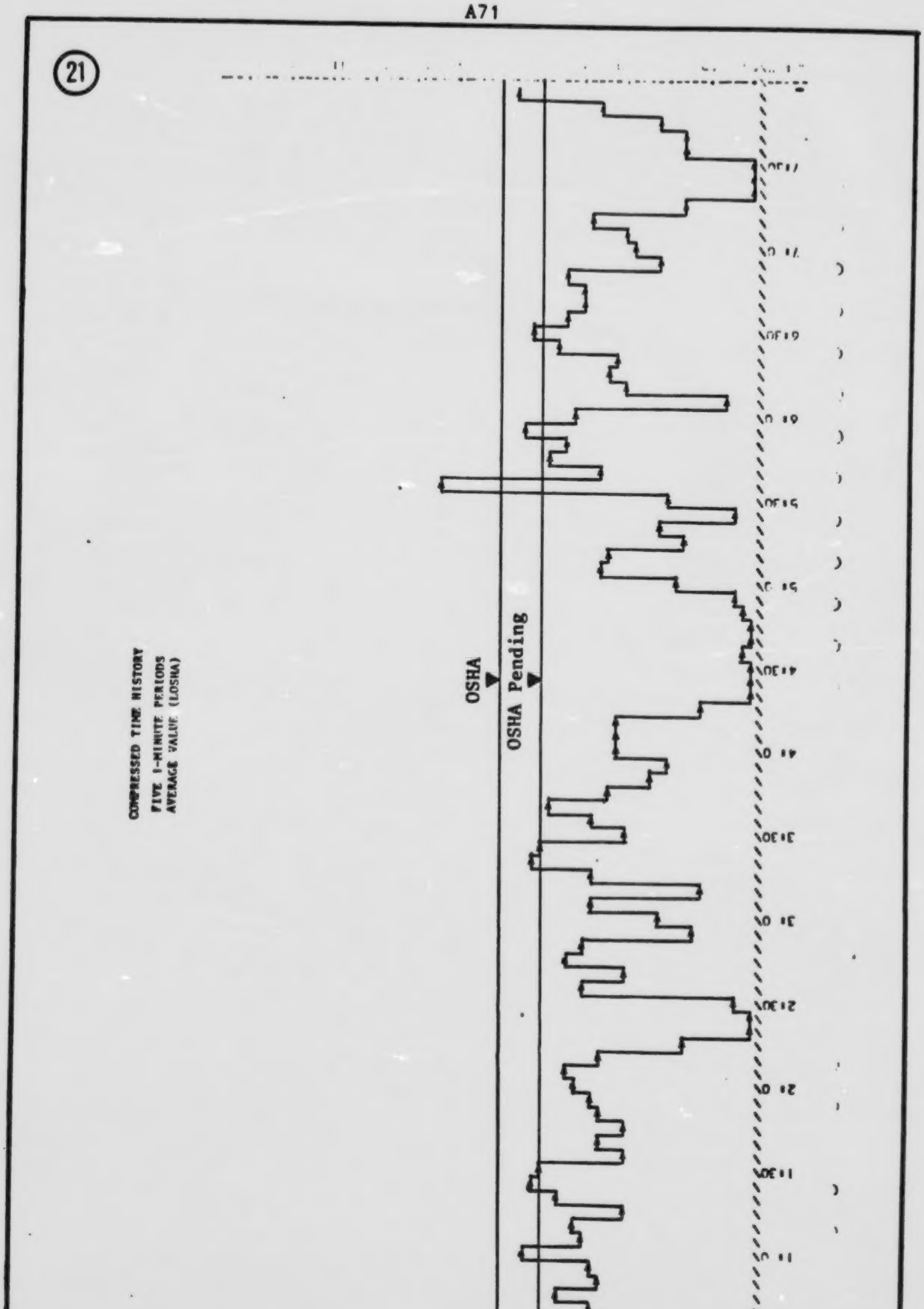
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
150	31.3	60 TO 64
54	11.3	65 TO 69
66	13.8	70 TO 74
70	14.6	75 TO 79
82	17.1	80 TO 84
50	10.4	85 TO 89
4	.8	90 TO 94
2	.4	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL No. OF DATA POINTS = 480

Number of computations = 480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COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Welder

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ENTER LOG DATE (MO/DA/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 0840
 ENTER JOB CODE (3 CHARS) : 021
  1  26  85  1219   60   64    4    1
   15372     115200  480
   60  78  60  60  65  60  66  71  61  68  62  81  85  76  82  80
   73  82  80  78  70  79  85  78  62  66  77  77  83  86  85  78
   75  85  84  84  86  84  82  74  76  77  80  89  90  91  91  90
   89  91  92  93  89  82  84  87  92  91  91  86  90  91  92  89
   83  85  82  85  91  91  91  89  91  88  87  85  82  90  89  89
   87  88  87  87  87  83  89  88  91  92  88  87  87  86  87  86
   86  86  89  87  83  71  85  86  87  87  87  87  87  87  89  87
   87  88  87  87  88  75  81  88  88  87  77  65  77  66  71  62
   62  71  72  82  77  79  78  89  94  79  68  62  71  72  68  60
   60  60  62  60  62  60  68  60  60  62  70  84  93  91  94  91
   90  91  92  92  93  91  88  89  87  88  95  95  94  93  98  96
   93 100  86  86  93  93  96  91  94  92  71  84  93  87  93  93
   96  85  85  76  71  78  81  85  86  87  87  85  78  79  88  88
   88  88  88  87  87  85  86  86  86  87  87  88  87  87  86  88
   87  84  85  81  83  87  87  87  86  86  81  81  85  76  75  80
   81  76  71  72  65  88  88  87  83  85  85  83  85  83  80  78
   86  79  70  83  83  74  62  60  60  61  62  60  65  68  66  60
   60  66  71  60  66  61  62  60  61  75  63  60  67  60  70  69
   60  62  60  60  68  66  66  61  78  87  86  86  87  84  84  85
   86  85  85  86  86  87  87  87  87  86  86  87  86  86  86  86
   86  86  86  86  86  86  86  86  85  85  85  85  86  86  85  85
   84  86  85  89  88  88  85  85  87  86  86  86  86  90  87  85
   84  86  86  86  86  86  86  86  87  87  87  86  85  85  87  84
   83  83  85  85  85  85  86  86  86  87  87  86  86  86  86  86
   86  86  86  86  86  86  86  86  87  88  86  86  86  86  86  86
   86  86  86  86  86  86  86  86  86  86  86  60  78  80  65  64
   66  80  68  60  60  68  62  61  60  69  66  62  68  60  60  60
   65  69  64  63  68  70  60  61  60  60  60  60  63  62  62  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61
   64  71  63  66  64  67  61  68  60  60  60  60  67  83  60  60
%EOF
```

```
   DATA LOGGED :12 JUNE 1979           DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                 SITE CODE : MACSH
SERIAL NUMBER : 1219                       JOB CODE : 021
      BASELINE : 60 DB                     USER CODE : 0840
DYNAMIC RANGE : 64 DB                     THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0               STANDBY TIME =   1: 4: 3

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1        83.9       83.9          5.388       5.39
   2        87.5       86.0          8.879      14.27
   3        87.4       86.5          8.771      23.04
   4        87.4       86.7          8.664      31.70
   5        77.5       85.6          2.211      33.91
   6        86.1       85.7          7.231      41.14
   7        85.0       85.6          6.242      47.39
   8        64.7       84.7           .376      47.76
MIN. COMP. =  60 DB                MAX. COMP. = 100 DB
ARITHMETIC MEAN =  79 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

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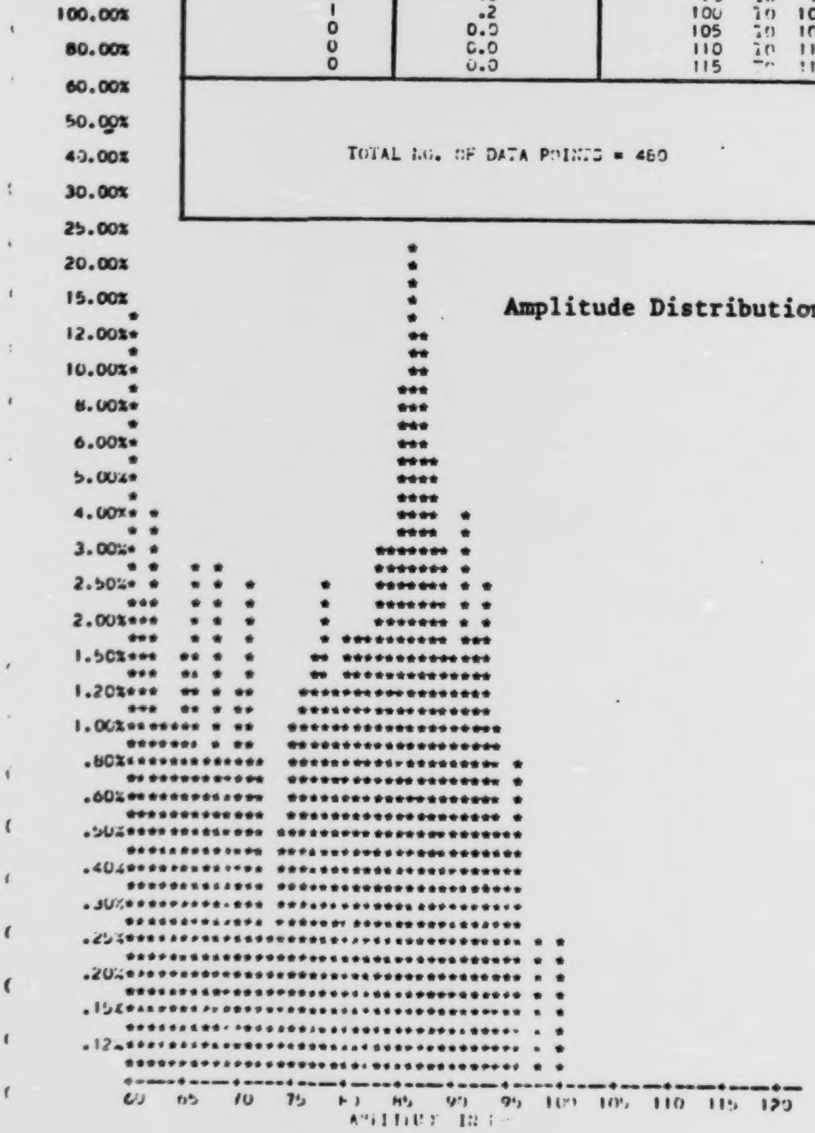
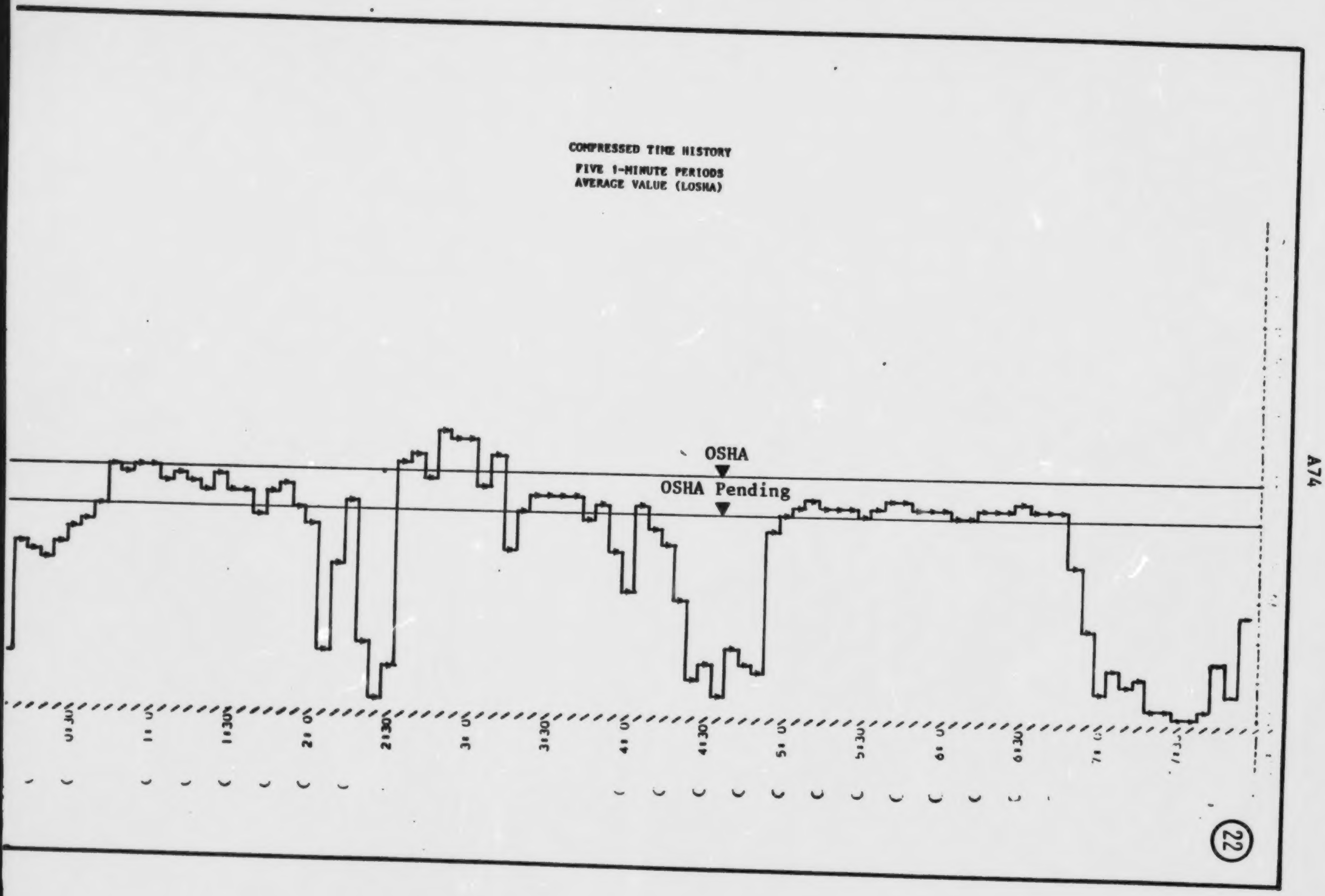
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
90	18.8	60 TO 64
34	7.1	65 TO 69
21	4.4	70 TO 74
30	6.3	75 TO 79
46	9.6	80 TO 84
209	43.5	85 TO 89
43	9.0	90 TO 94
6	1.3	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30
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Blacksmith

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79

ENTER SITE CODE (5 CHARS) : MACSH

ENTER USER CODE (4 CHARS) : 6643
 ENTER JOB CODE (3 CHARS) : 036
  1  26  85  1212   60   64    4    1
   17737     114509  477
  68  63  76  73  70  69  60  60  65  67  79  80  78  63  65  84
  60  70  69  77  87  85  90  87  81  77  78  71  73  86  78  73
  88  83  79  81  84  84  78  79  83  80  76  79  64  81  80  82
  86  88  82  80  80  84  84  81  72  78  81  75  76  82  78  82
  87  84  79  76  81  77  78  78  73  63  70  82  83  76  78  81
  78  81  67  75  83  79  81  74  69  70  83  75  78  74  72  85
  87  68  83  78  78  76  79  85  73  73  76  74  79  73  77  78
  65  81  85  84  84  83  85  86  87  83  83  74  78  76  78  76
  73  76  77  64  61  60  60  60  64  62  68  70  68  61  67  75
  71  65  60  70  77  62  63  69  74  76  69  73  91  94  95  96
  91  86  96  94  95  96  97  98  89  81  89  90  86  80  71  87
  87  83  82  80  86  83  82  84  87  88  87  87  83  83  83  86
  84  82  84  73  77  74  82  84  74  74  76  75  76  75  60  68
  69  60  60  60  73  71  75  75  72  80  76  76  81  78  83  81
  80  82  81  84  84  85  63  79  81  78  76  83  64  79  69  75
  73  69  60  72  75  77  78  75  72  69  67  60  67  60  60  60
  60  60  60  60  60  60  68  60  60  60  60  60  62  63  61  67
  60  60  60  60  60  63  63  60  60  60  60  60  60  60  60  60
  60  60  60  60  68  68  76  75  69  73  70  68  71  72  65  83
  79  79  80  70  74  73  74  72  72  67  73  69  73  69  69  72
  67  72  70  70  68  76  72  69  60  62  66  71  80  86  85  62
  70  67  74  72  65  64  79  81  74  69  77  80  72  61  64  85
  73  76  77  81  75  76  72  74  80  75  62  66  70  78  74  63
  64  61  77  74  75  74  75  84  72  69  72  71  85  82  83  79
  79  73  82  86  81  77  77  76  77  73  78  77  77  77  75  60
  77  81  77  76  75  76  77  69  70  72  70  68  60  66  60  79
  60  60  67  74  72  62  64  67  62  78  76  74  82  77  60  60
  60  72  71  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  64  86  80  80  79  75  65
  77  77  65  60  72  71  84  77  69  63  63  60  66  60  60  60
 *EOF




     DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : MACSH
   SERIAL NUMBER : 1212                          JOB CODE : 036
        BASELINE : 60 DB                        USER CODE : 6643
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  114509
   TEST DURATION =   7:57: 7                 STANDBY TIME =   1:13:54


          TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 477
  PERIOD =  1 MINUTES


  TIME         LOGAA                           %DOSE
  HOUR     CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
     1       80.0       80.0              3.118       3.12
     2       80.1       80.0              3.154       6.27
     3       85.7       82.4              6.884      13.16
     4       80.4       82.0              3.303      16.46
     5       66.8       80.6               .501      16.96
     6       75.0       79.9              1.57       18.53
     7       76.1       79.5              1.808      20.34
     8       71.6       78.9               .927      21.27
   MIN. CONC. =   60 DB                MAX. CONC. =   94 DB
   ARITHMETIC MEAN =  72 DB
   STD. DEVIATION =    9 DB
   VARIANCE = 81 DB
```

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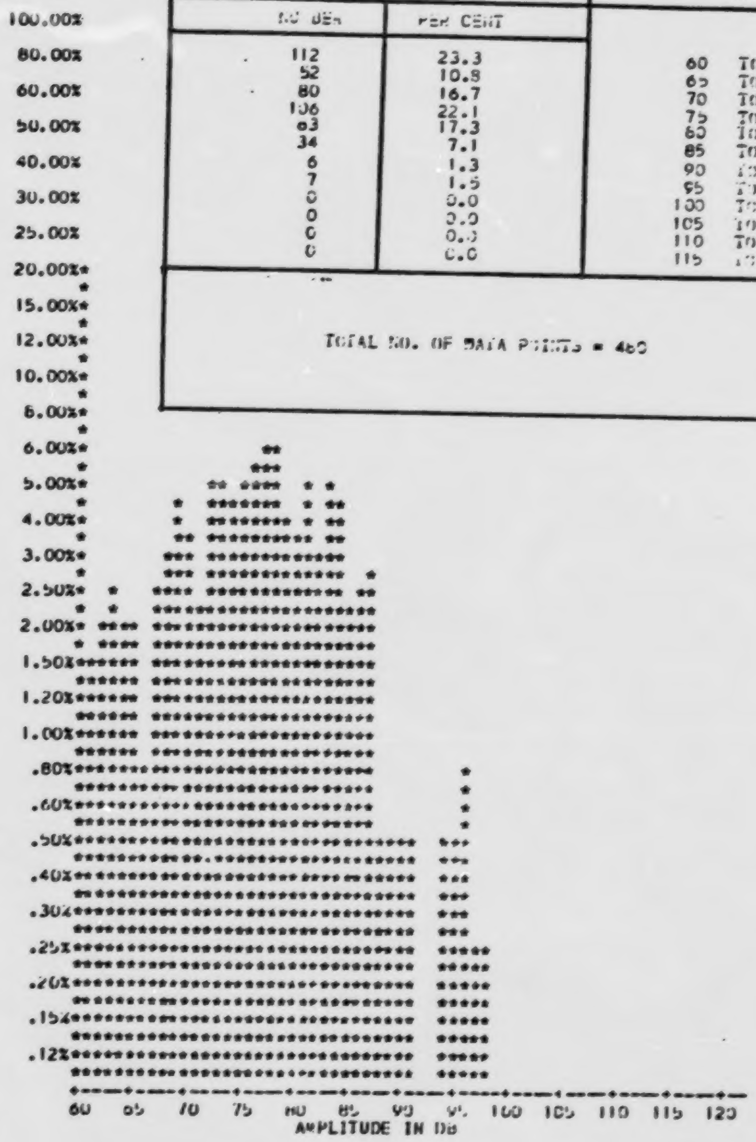
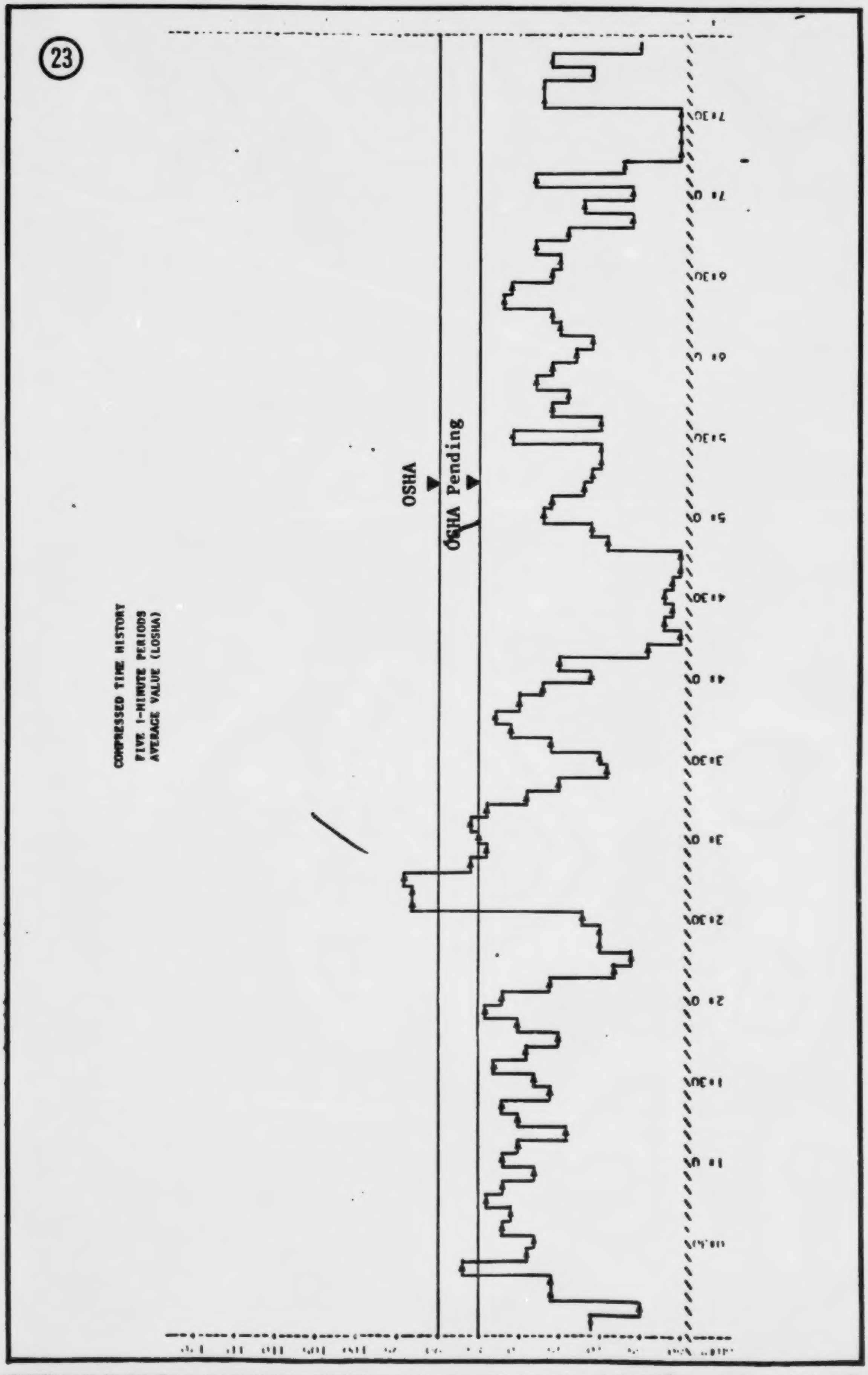
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
112	23.3	60 TO 64
52	10.8	65 TO 69
80	16.7	70 TO 74
106	22.1	75 TO 79
83	17.3	80 TO 84
34	7.1	85 TO 89
6	1.3	90 TO 94
7	1.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 477


23
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Blacksmith ㉔

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 5215
 ENTER JOB CODE (3 CHARS) : 006
  1  26  85  1218   60   64    4    1
   6934     112916  470
   72  66  74  61  61  64  60  71  60  66  62  66  85  85  87  87
   82  77  80  67  81  76  67  71  60  85  72  71  72  78  79  70
   85  86  90  69  90  86  91  88  79  72  78  70  83  86  85  81
   80  77  79  73  77  79  73  66  70  76  79  73  73  69  74  66
   76  71  75  76  79  75  75  81  80  82  86  80  80  81  80  79
   79  73  80  82  74  78  74  74  83  83  60  66  75  78  71  82
   80  69  76  76  60  62  62  61  60  68  68  60  60  60  60  67
   76  76  66  65  79  74  77  77  64  65  72  67  60  66  60  60
   63  66  61  60  60  60  60  60  60  60  60  60  61  60  60  65
   66  79  60  70  74  70  79  71  72  61  76  84  73  78  65  83
   81  70  76  78  81  94  91  92  90  89  88  88  85  89  90  82
   60  60  62  69  83  82  62  69  81  88  87  81  77  81  75  78
   82  88  86  89  90  88  72  69  69  68  79  88  88  90  89  89
   88  73  71  61  62  70  74  68  74  74  60  69  60  65  74  60
   71  78  78  72  73  62  60  69  72  73  65  70  75  72  67  64
   68  66  69  63  65  62  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  67  60  63  65  61
   63  63  67  70  65  71  65  73  76  82  80  76  75  71  79  69
   71  76  77  78  63  65  74  70  77  69  65  78  63  66  76  75
   70  70  68  74  65  79  82  75  63  68  76  60  84  86  87  87
   80  65  69  72  70  66  66  78  73  73  73  75  75  65  74  71
   74  68  73  60  61  67  74  63  66  62  79  86  79  77  88  87
   74  75  65  66  65  71  74  76  71  70  66  70  65  60  73  60
   69  60  60  61  64  60  60  60  62  60  76  70  61  60  66  65
   66  63  68  66  60  60  60  60  68  60  65  64  71  64  64  60
   62  63  60  60  60  61  64  62  60  60  62  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  65  74  78  87  88  86  85  88  88  66  88  64  93  93
   87  85  82  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : MACSH
 SERIAL NUMBER : 1218                          JOB CODE : 006
      BASELINE : 60 DB                        USER CODE : 5215
 DYNAMIC RANGE : 54 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  112916
 TEST DURATION =    7:50:29                STANDBY TIME =   0:28:53

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 470
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      80.0      80.0            3.129      3.13
   2      76.1      78.3            1.826      4.96
   3      79.6      78.8            2.934      7.89
   4      80.3      79.2            3.257     11.15
   5      66.0      77.9             .452     11.60
   6      75.1      77.5            1.577     13.18
   7      72.6      76.9            1.128     14.31
   8      79.0      77.2            2.279     16.59
MIN. COMP. =  60 DB                MAX. COMP. =  94 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

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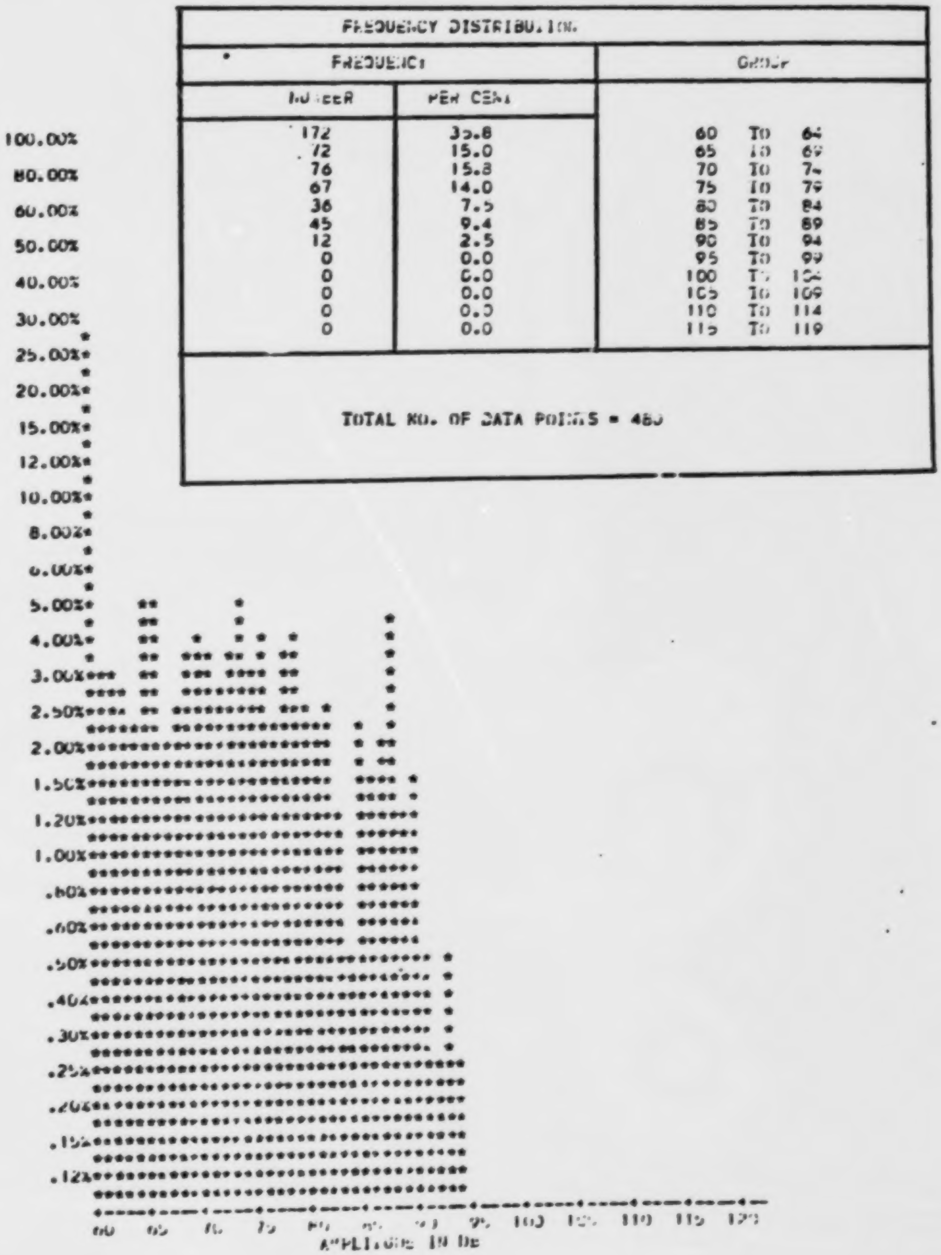
Amplitude Distribution



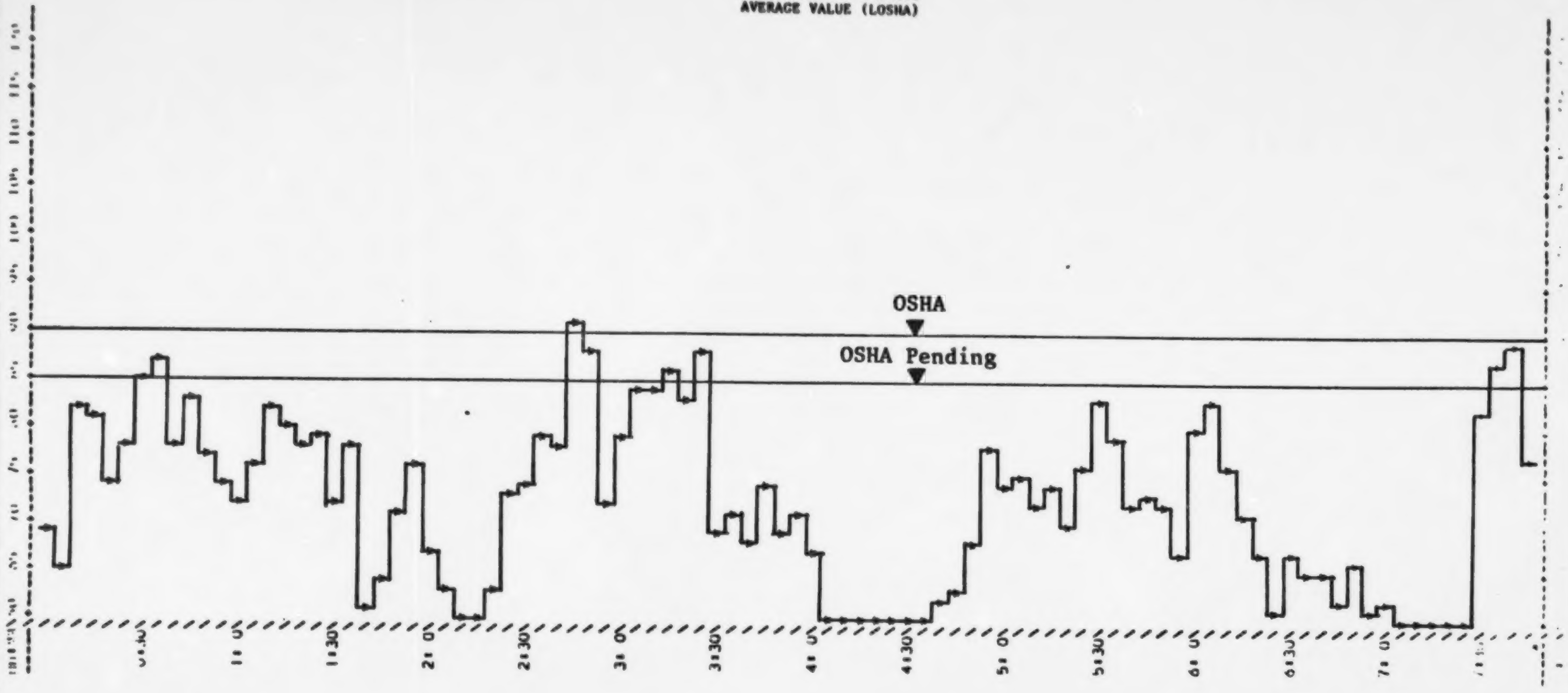
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
172	35.8	60 TO 64
72	15.0	65 TO 69
76	15.8	70 TO 74
67	14.0	75 TO 79
36	7.5	80 TO 84
45	9.4	85 TO 89
12	2.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 470

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



㉕ **Leader** -

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : MACSH
ENTER USER CODE (4 CHARS) : 2321
 ENTER JOB CODE (3 CHARS) : X01
  1  26  85  1215   60   64    4     1
   11335     112836  470
  73  67  67  64  71  68  85  93  93  91  83  62  63  90  95  95
  95  95  96  92  92  94  93  93  94  91  68  90  95  77  70  62
  71  69  74  71  76  72  69  79  65  77  74  70  64  60  60  60
  64  80  77  61  76  69  60  75  60  60  60  76  70  62  60  60
  70  77  60  60  60  72  60  81  74  60  60  60  60  60  71  60
  60  60  60  60  60  60  66  60  65  68  63  66  60  79  69  66
  74  67  80  70  79  78  68  71  78  80  70  63  77  69  73  71
  66  66  71  75  73  61  67  79  70  66  70  60  67  64  60  62
  62  60  74  66  60  60  60  75  60  60  66  60  60  60  60  80
  74  75  89  98 101  92  82  65  72  71  65  60  71  80  78  71
  78  68  76  66  70  72  72  77  82  78  82  75  71  71  60  63
  60  60  60  60  60  60  76  70  60  60  63  76  70  79  76  77
  81  72  66  62  60  74  73  64  60  62  60  60  60  63  60  64
  62  60  90  83  93  69  67  70  71  70  70  60  72  75  66  61
  60  74  83  74  66  60  68  72  76  73  72  76  67  62  68  83
  80  76  76  73  64  75  67  69  70  60  60  60  60  60  60  60
  61  60  60  60  60  60  60  64  75  66  84  77  60  60  60  60
  60  67  60  60  60  60  60  60  60  60  74  60  64  71  70  67
  76  67  70  65  83  66  75  75  86  86  87  85  80  84  72  86
  76  74  62  73  72  65  60  81  70  71  86  65  64  63  73  72
  78  76  74  64  69  77  76  82  86  85  76  68  69  77  66  68
  68  78  81  71  60  68  69  60  68  76  83  81  82  83  85  83
  78  82  78  86  72  60  66  63  82  65  70  82  66  87  91  70
  61  60  66  88  79  68  63  68  65  88  64  64  63  86  85  77
  80  68  76  72  79  73  72  77  72  67  67  64  63  75  79  74
  73  86  78  71  67  63  72  83  84  84  82  69  70  83  82  77
  76  60  72  74  73  71  68  79  74  62  73  72  65  60  60  63
  61  60  60  62  63  61  65  70  71  75  60  66  71  61  64  68
  60  77  75  75  63  75  72  78  75  77  62  75  76  66  65  69
  60  76  78  60  64  71  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
   DATA LOGGED :12 JUNE 1979            DATA ANALYZED : 21  AUG 1979
        LOGGER : 95-301/26                    SITE CODE : MACSH
 SERIAL NUMBER : 1215                          JOB CODE : X01
      BASELINE : 60 DB                        USER CODE : 2321
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  112836
 TEST DURATION =    7:50: 9                STANDBY TIME =   0:47:13

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 470
PERIOD =  1 MINUTES

TIME          LOSHA                         %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       85.6       85.6             6.792       6.79
   2       70.5       81.5              .874       7.67
   3       79.6       80.9             2.943      10.61
   4       74.7       79.8             1.491      12.10
   5       73.1       78.8             1.203      13.30
   6       77.4       78.6             2.184      15.49
   7       79.1       78.7             2.743      18.23
   8       70.7       78.2              .720      18.95
MIN. COMP. =  60 DB                 MAX. COMP. = 101 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

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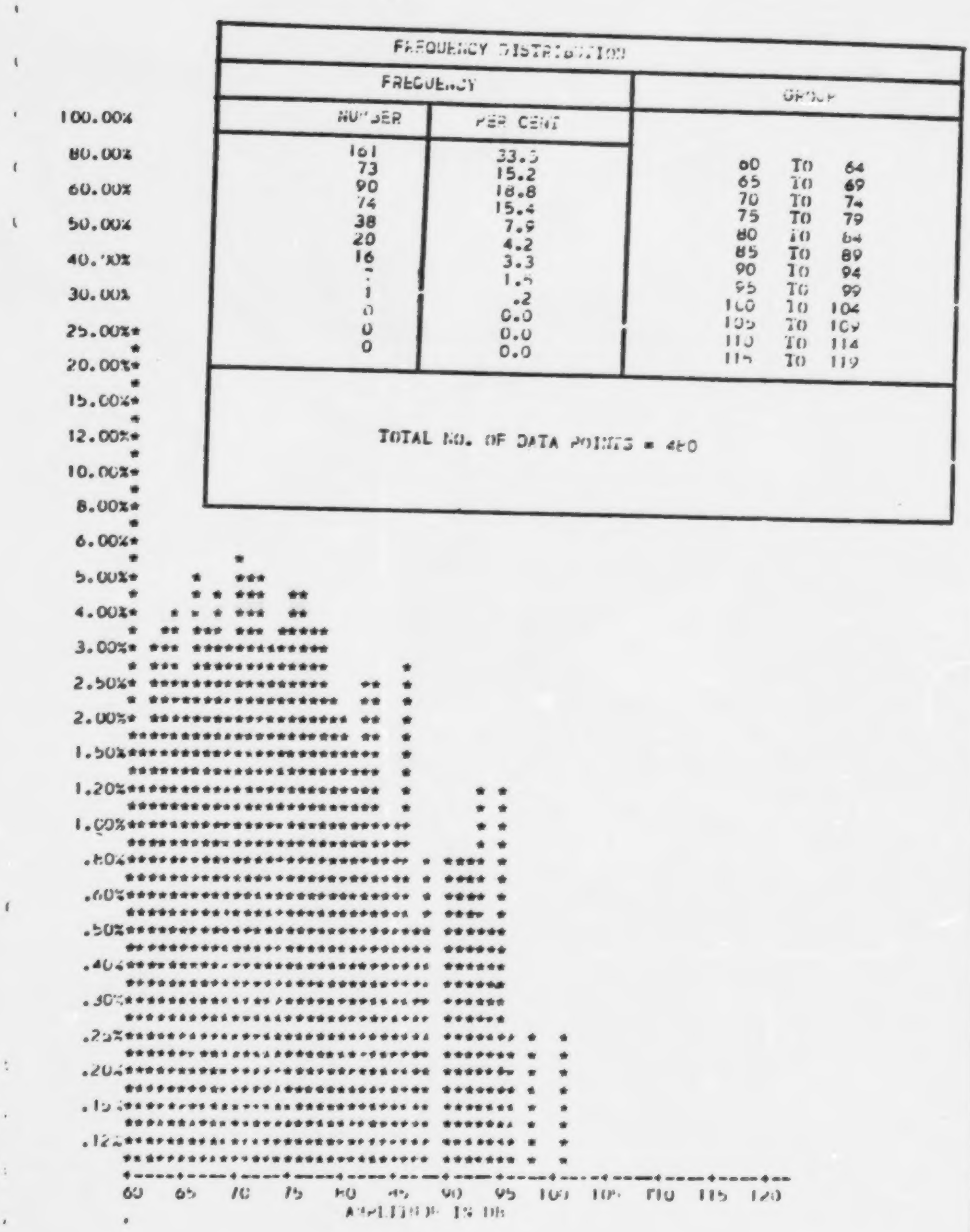
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
161	33.5	60 TO 64
73	15.2	65 TO 69
90	18.8	70 TO 74
74	15.4	75 TO 79
38	7.9	80 TO 84
20	4.2	85 TO 89
16	3.3	90 TO 94
7	1.5	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 470

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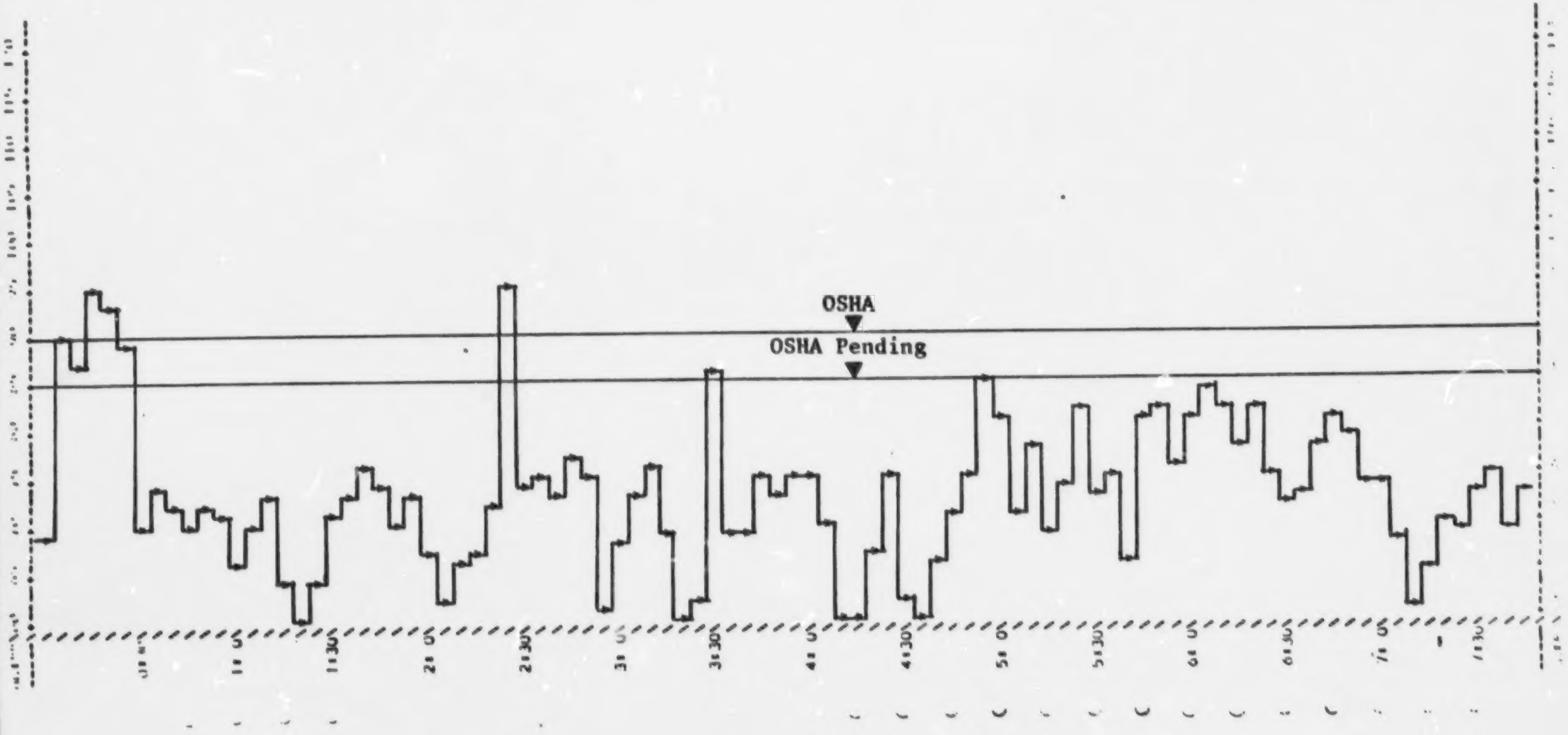
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Foreman ㉖

```
ENTER LOG DATE (DD/MM/YR) : 12/06/79
ENTER SITE CODE (5 CHARS) : WACSH

ENTER USER CODE (4 CHARS) : 9627
 ENTER JOB CODE (3 CHARS) : 004
  1  26  85  1225   60   64    4    1
   10258    115200  480
  80  63  62  60  61  60  60  60  60  69  69  64  65  69  73  60
  68  73  73  72  72  74  73  74  66  65  79  73  66  60  61  66
  68  71  73  67  60  70  71  65  86  73  86  81  74  70  70  73
  65  66  66  76  77  67  75  81  83  68  81  67  84  90  79  83
  84  83  84  83  87  82  76  79  74  64  75  66  85  74  64  77
  63  66  76  81  80  85  74  72  60  60  73  60  62  70  60  68
  81  91  86  77  81  85  89  80  79  79  61  63  70  62  77  70
  76  76  86  82  85  83  83  77  76  74  67  63  65  60  60  70
  78  72  74  78  72  80  68  67  72  71  77  84  83  63  72  68
  65  61  64  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  80  69  60  71  84  84  82  84  78  65  79  64  76  80
  73  73  78  63  73  63  68  74  67  70  65  69  69  63  65  73
  72  70  70  69  63  61  61  60  72  68  74  80  74  73  82  70
  64  73  73  75  74  86  87  87  86  83  83  60  84  78  78  84
  83  85  81  87  87  85 .88  79  79  77  77  76  74  72  68  79
  68  72  72  69  75  69  72  76  67  69  82  72  75  69  72  80
  60  74  74  60  66  61  70  70  68  63  70  60  60  60  60  60
  60  60  60  69  60  63  84  60  60  60  60  64  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  68  63  63
  70  82  67  81  80  73  77  63  69  79  84  87  85  80  83  82
  75  73  71  76  75  65  76  80  79  76  61  76  67  70  67  81
  66  78  75  67  73  74  73  84  85  89  74  83  90  83  73  78
  60  62  62  83  75  72  79  80  84  82  82  80  85  82  79  77
  81  79  83  84  73  67  71  77  83  82  84  86  81  83  86  84
  87  84  87  91  85  72  87  82  70  89  68  71  81  79  80  78
  71  77  72  65  60  64  70  60  60  60  66  60  72  86  60  60
  73  61  60  60  60  64  75  84  84  83  83  60  61  84  81  68
  73  62  70  74  79  73  62  84  89  62  61  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  65  61  67  66  72  66  72
  77  78  72  76  65  68  60  71  69  76  77  76  71  71  74  76
%EOF
```

```
    DATA LOGGED :12 JUNE 1979              DATA ANALYZED : 21  AUG 1979
         LOGGER : DB-301/26                     SITE CODE : WACSH
  SERIAL NUMBER : 1225                           JOB CODE : 004
       BASELINE : 60 DB                         USER CODE : 9627
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                  STANDBY TIME =   1: 7:44

              TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 85 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES


  TIME          LOSHA                      %DOSE
  HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
     1       73.2       73.2          1.215       1.22
     2       80.1       77.5          3.190       4.41
     3       73.8       76.4          1.317       5.72
     4       78.6       77.1          2.588       8.31
     5       69.6       76.1           .744       9.05
     6       77.3       76.7          2.854      11.91
     7       80.2       77.3          3.230      15.14
     8       74.6       77.1          1.472      16.61
  MIN. COMP. =  60 DB               MAX. COMP. =  91 DB
  ARITHMETIC MEAN =  72 DB
  STD. DEVIATION =   9 DB
  VARIANCE = 81 DB
```

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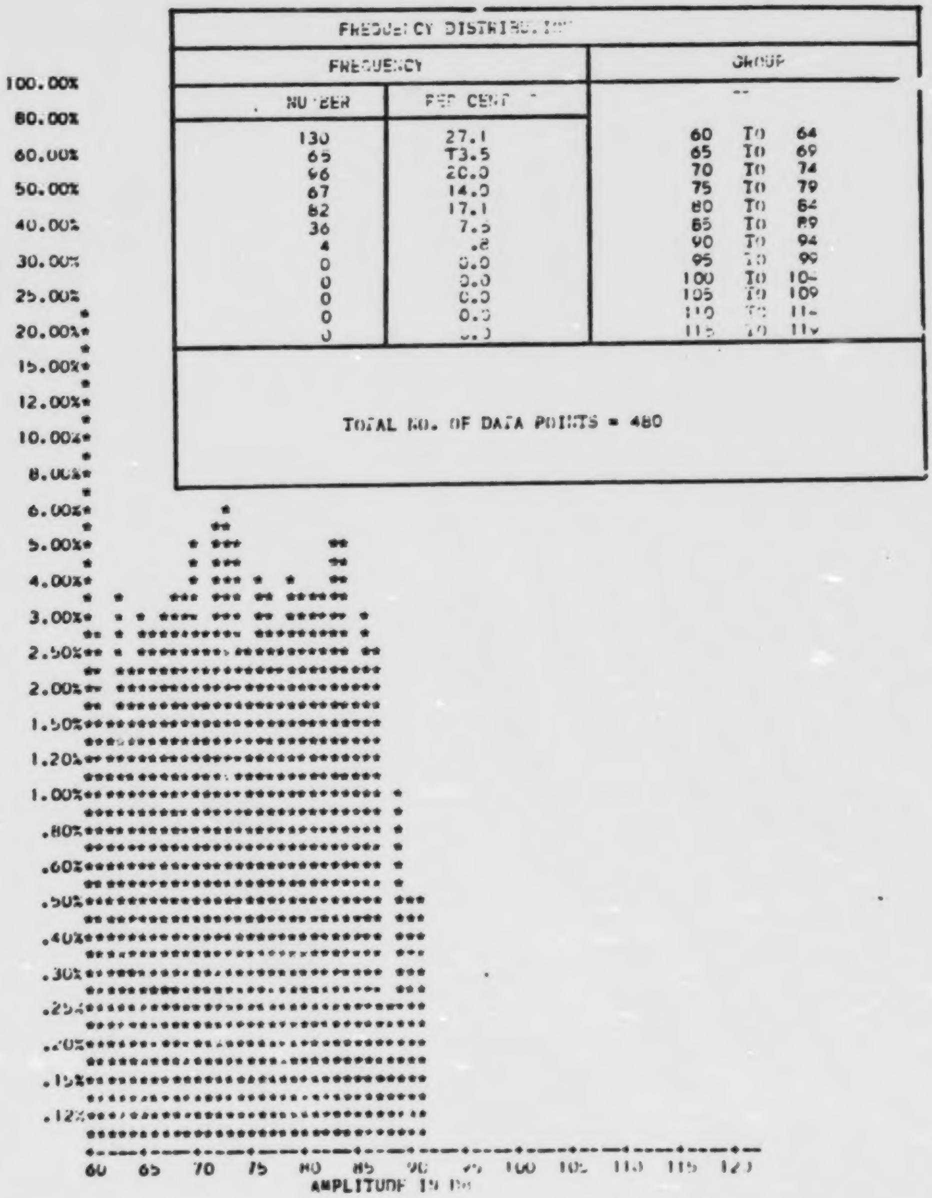
Amplitude Distribution



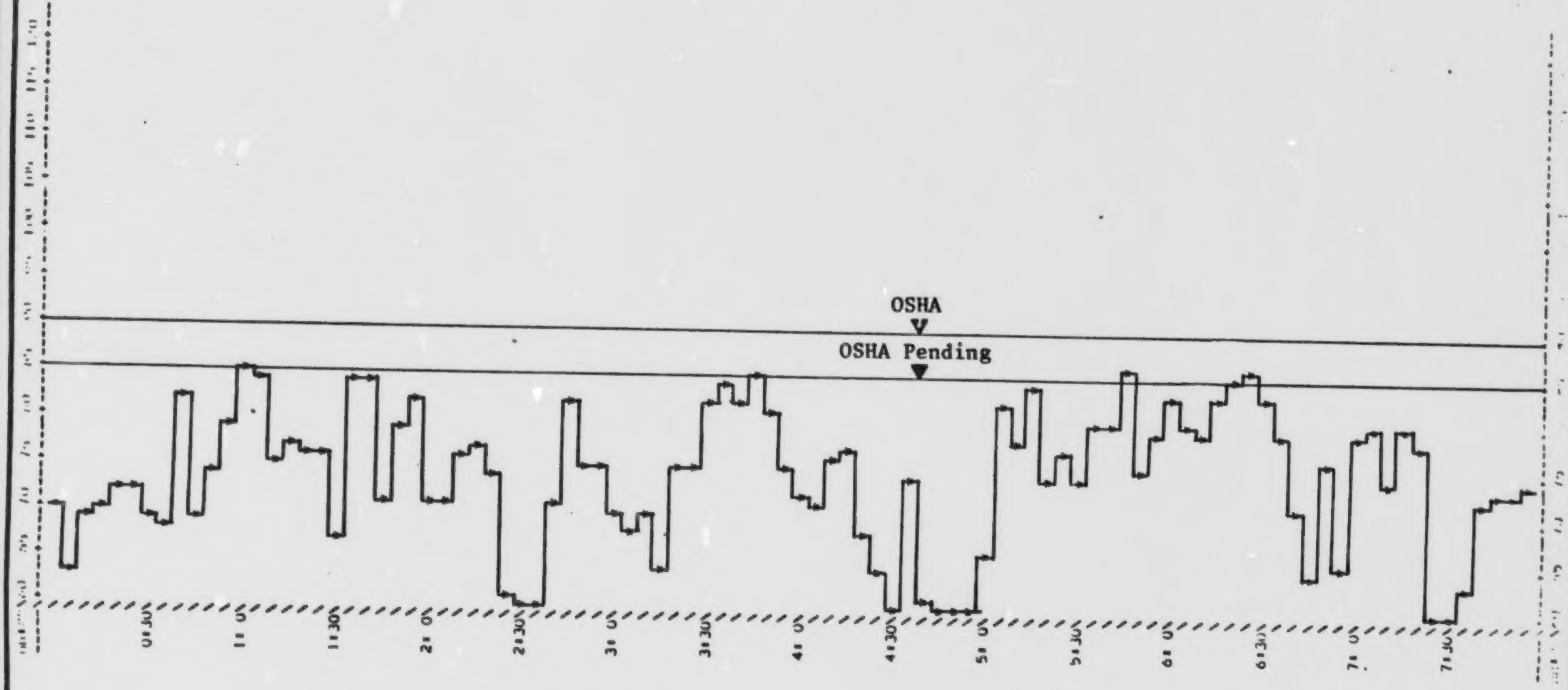
FREQUENCY DISTRIBUTION		
FREQUENCY		**GROUP**
NUMBER	**PER CENT**	
130	27.1	60 TO 64
65	13.5	65 TO 69
96	20.0	70 TO 74
67	14.0	75 TO 79
82	17.1	80 TO 84
36	7.5	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Mechanic

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1220   60   64   4   1
 22740    115200  480
  74  75  75  64  63  63  60  60  60  65  60  67  66  83  86  68
  65  71  79  80  84  87  87  87  88  86  84  85  85  85  80  70
  73  82  84  86  70  62  60  [illegible]  82  72  70  76  70  78  78  60
  63  60  69  60  60  70  71  79  80  75  83  66  79  70  62  69
  62  61  60  63  61  69  66  65  65  60  63  76  79  77  78  60
  73  60  70  69  68  70  63  60  64  63  60  76  84  80  81  71
  72  70  67  71  60  77  65  77  68  68  76  78  [illegible]  82  80  71
  79  76  79  69  73  71  65  60  70  74  73  80  75  74  72  62
  78  73  70  71  72  58  71  68  63  59  81  78  71  60  60  60
  60  63  60  60  69  61  60  63  62  60  69  85  63  78  78  84
  79  63  70  70  70  62  73  70  69  75  73  73  76  70  71  76
  79  76  77  76  75  76  79  82  80  77  78  76  76  84  85  82
  61  81  80  77  66  61  62  61  68  60  74  65  71  80  83  80
  82  81  82  84  72  71  65  60  60  70  66  71  63  96  82  70
  66  60  60  65  75  73  68  76  76  74  79  65  68  63  60  64
  62  60  68  60  62  61  60  60  60  60  60  67  60  65  60  66
  65  76  73  67  60  69  65  68  64  70  73  77  69  60  69  75
  73  72  85  85  73  62  60  69  75  71  81  91  91  71  74  61
  68  64  71  75  71  67  77  70  71  69  73  66  63  75  89  91
  77  72  77  81  75  78  74  75  69  65  71  72  73  67  67  65
  67  68  65  73  64  64  72  73  68  6[illegible]  63  64  70  66  61  64
  70  64  61  63  62  67  64  67  63  6[illegible]  74  66  77  75  74  75
  77  64  65  62  63  62  68  66  72  75  70  70  63  64  66  77
  64  70  71  73  68  70  61  62  69  71  72  64  63  60  65  64
  60  65  61  61  60  61  65  71  62  75  73  71  71  75  84  85
  67  87  86  86  67  72  73  86  93  85  85  82  81  79  81  84
  84  81  82  84  80  67  72  68  69  73  71  74  74  73  77  69
  77  81  87  89  96  84  93  96  96  93  87  84  83  82  82  82
  83  82  84  83  85  87  90  86  90  84  83  86  82  87  89  89
  90  86  90  92  83  83  92  90  83  91  88  89  91  92  89  90
%EOF



ENTER LOG DATE (MO/DY/YR) : 05/07/79
ENTER SITE CODE (5 CHARS) : 2[illegible]
ENTER USER CODE (4 CHARS) : 1265
 ENTER JOB CODE (3 CHARS) : 001



   DATA LOGGED : 6 JULY 1979             DATA ANALYZED : 29  AUG 1979
        LOGGER : [illegible]-301/26              SITE CODE : 2[illegible]IP
 SERIAL NUMBER : 1220                         JOB CODE : 001
      BASELINE : 60 DB                       USER CODE : 1265
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   [illegible] D             STANDBY TIME =   [illegible]

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible]
  [illegible] = 4[illegible]
PERIOD =  1 HOURS

TIME           LOSHA                      DOSE
ZONE    CURRENT  CUMULATIVE       CURRENT  CUMULATIV
  1       79.0      79.0          2.70%  *   2.71
  2       74.3      77.0          1.427      4.14
  3       73.3      [illegible]          1.[illegible]      [illegible]
  4       77.0      7[illegible].3          2.0[illegible]      7.45
  5       7[illegible]      7[illegible].9          1.[illegible]      [illegible]
  6       7[illegible]      7[illegible]          1.2[illegible]      1[illegible].1[illegible]
  7       7[illegible]      7[illegible].1          2.[illegible]      12.[illegible]
  8       [illegible]7.2      7[illegible]          [illegible].4[illegible]      21.[illegible]
[illegible] = [illegible]              [illegible] = [illegible]
[illegible] = [illegible]
[illegible]
[illegible] = [illegible]
```

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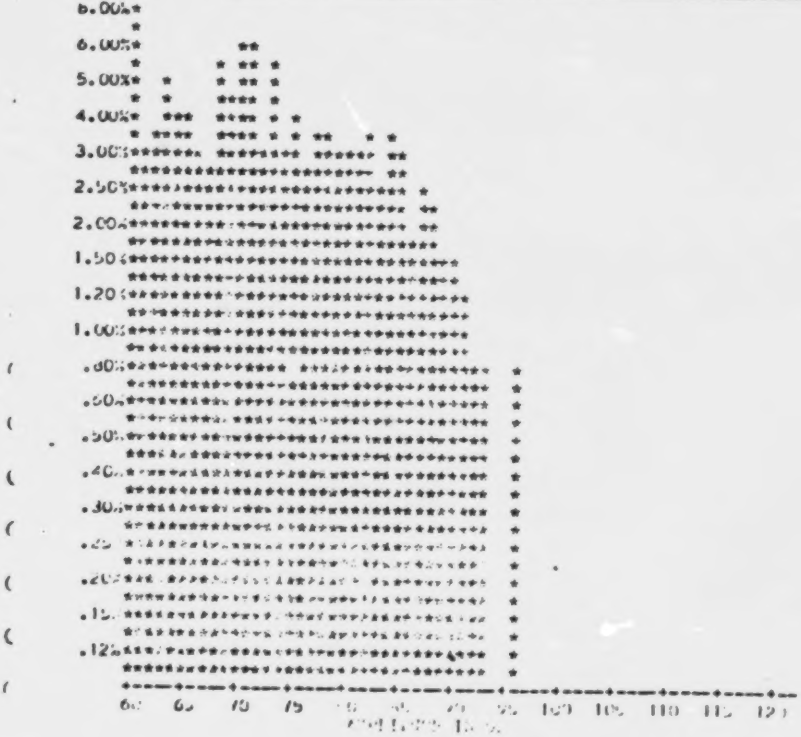
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
107	22.3	60 TO 64
79	16.5	65 TO 69
97	20.2	70 TO 74
69	14.4	75 TO 79
64	13.3	80 TO 84
44	9.2	85 TO 89
17	3.5	90 TO 94
3	.6	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

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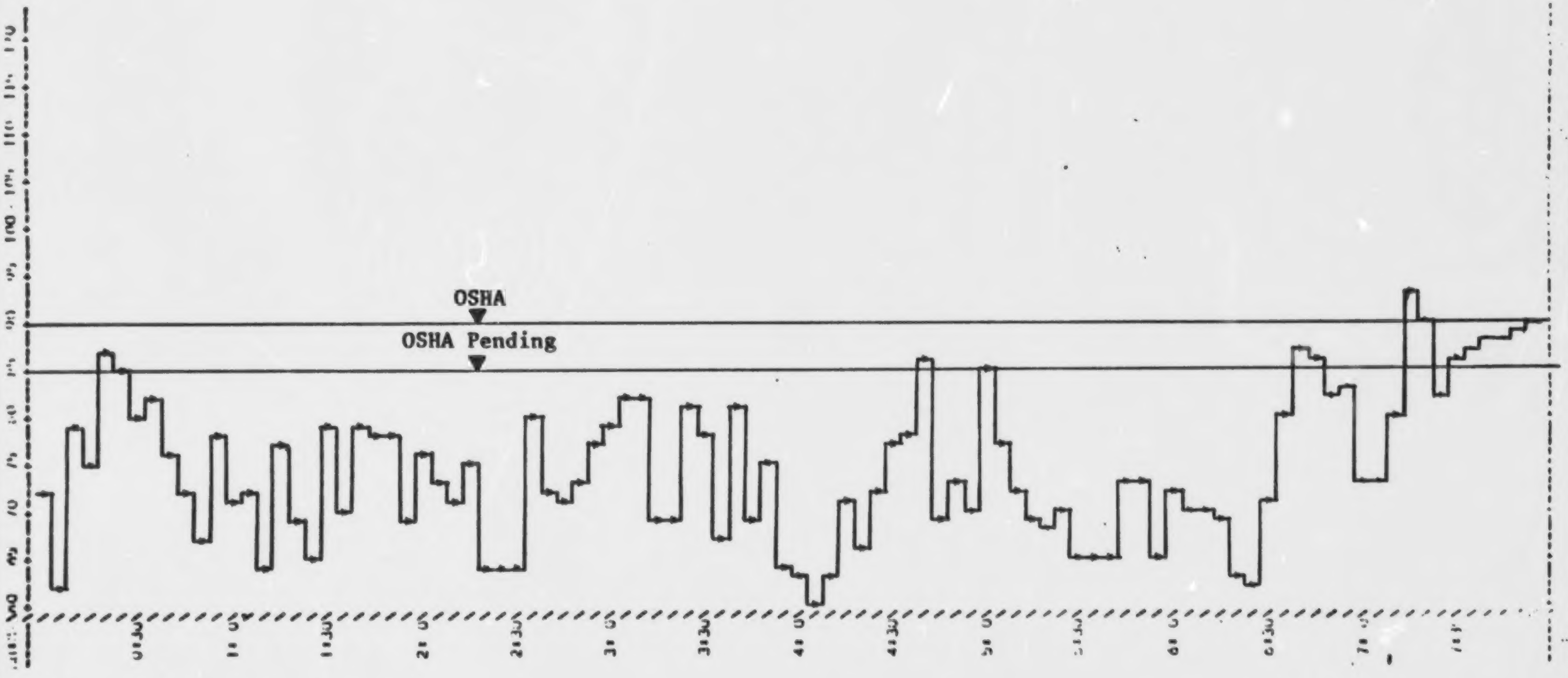
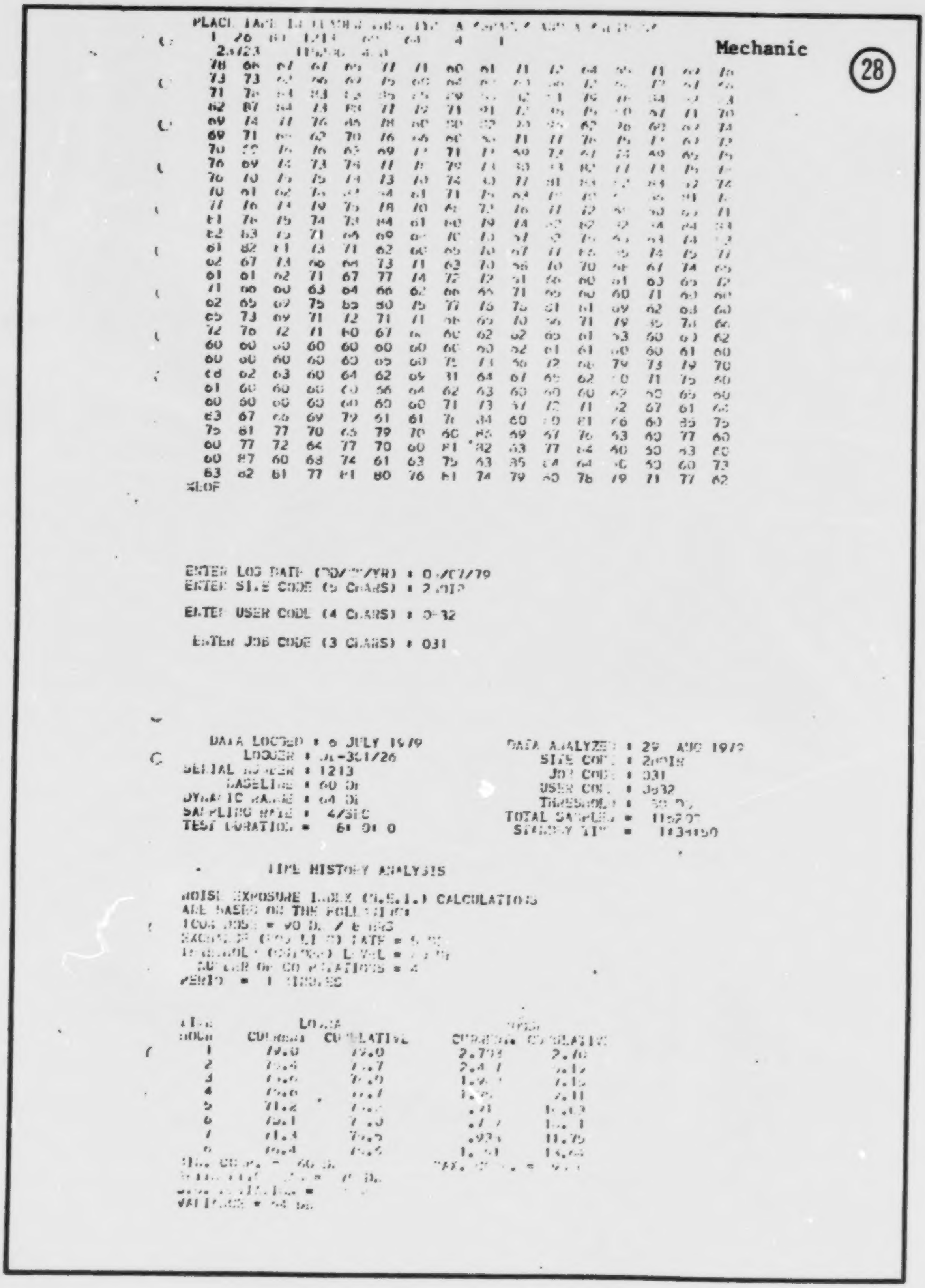
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





Mechanic

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PLACE TAPE IN READER [illegible]
  1  76  60  1213   60   64    4     1
  2.0123     [illegible]
  78  66  67  67  65  71  71  60  61  71  72  64  [illegible]  71  67  75
  73  73  65  66  67  75  60  62  61  [illegible]  [illegible]  72  [illegible]  72  61  [illegible]
  71  75  64  83  [illegible]  85  [illegible]  79  [illegible]  62  [illegible]  76  [illegible]  84  [illegible]  [illegible]
  82  87  84  73  83  77  72  71  91  72  [illegible]  75  [illegible]  57  71  70
  69  74  77  76  65  78  60  50  [illegible]  [illegible]  [illegible]  62  70  60  [illegible]  74
  69  71  [illegible]  62  70  76  66  60  [illegible]  71  77  76  75  72  61  72
  70  [illegible]  76  76  62  69  72  71  72  50  72  61  [illegible]  80  65  75
  76  69  74  73  74  77  72  70  74  [illegible]  [illegible]  82  77  73  75  [illegible]
  76  70  75  75  74  73  70  74  [illegible]  77  81  [illegible]  [illegible]  84  [illegible]  74
  70  61  62  76  [illegible]  [illegible]  61  71  75  68  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
  77  76  74  79  75  78  70  62  72  76  77  72  [illegible]  [illegible]  [illegible]  71
  81  76  75  74  73  84  61  60  79  74  [illegible]  62  [illegible]  [illegible]  64  [illegible]
  82  63  75  71  66  69  [illegible]  70  73  57  [illegible]  75  [illegible]  63  74  [illegible]
  61  82  81  73  71  62  60  65  70  67  77  [illegible]  [illegible]  74  75  77
  62  67  73  66  66  73  71  63  70  56  70  70  [illegible]  67  74  65
  61  61  62  71  67  77  74  72  72  51  [illegible]  60  61  63  65  72
  71  66  60  63  64  66  62  66  65  71  65  60  60  71  63  60
  62  65  67  75  65  50  75  77  75  75  51  61  69  62  63  60
  65  73  69  71  72  71  71  [illegible]  65  70  [illegible]  71  79  [illegible]  73  66
  72  70  72  71  80  67  [illegible]  60  62  62  65  61  53  60  60  62
  60  60  60  60  60  60  60  60  60  62  61  61  60  60  61  60
  60  60  60  60  60  65  60  75  71  56  72  66  79  73  79  70
  68  62  63  60  64  62  69  31  64  67  65  62  [illegible]  71  75  60
  61  60  60  60  60  56  64  62  63  60  60  60  62  50  65  60
  60  60  60  60  60  60  60  71  73  57  72  71  52  67  61  [illegible]
  63  67  65  69  79  61  61  70  84  60  [illegible]  81  76  60  85  75
  75  81  77  70  65  79  70  60  85  69  57  76  63  60  77  60
  60  77  72  64  77  70  60  81  82  63  77  64  60  50  63  60
  60  87  60  63  74  61  63  75  63  85  64  64  [illegible]  50  60  73
  63  62  61  77  81  80  76  81  74  79  60  76  79  71  77  62
%EOF



ENTER LOG DATE (DD/MM/YR) : 0./07/79
ENTER SITE CODE (5 CHARS) : 2.01R

ENTER USER CODE (4 CHARS) : 0532

 ENTER JOB CODE (3 CHARS) : 031



    DATA LOGGED : 6 JULY 1979              DATA ANALYZED : 29  AUG 1979
         LOGGER : ML-351/26                      SITE CODE : 2[illegible]1R
  SERIAL NUMBER : 1213                            JOB CODE : 031
       BASELINE : 60 DB                          USER CODE : 0532
  DYNAMIC RANGE : 64 DB                          THRESHOLD : [illegible]
  SAMPLING RATE : 4/SEC                  TOTAL SAMPLES =  115207
  TEST DURATION =    6: 0: 0              STANDBY TIME =   1:34:50

   .       TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMBINATIONS = 4
PERIOD =  1  [illegible]

TIME           LOSHA                       [illegible]
HOUR     CURRENT   CUMULATIVE        CURRENT   CUMULATIVE
  1        79.0       79.0            2.79[illegible]     2.70
  2        [illegible]       [illegible]            2.4[illegible]      [illegible]
  3        [illegible]       [illegible]            1.[illegible]      [illegible]
  4        [illegible]       [illegible]            1.[illegible]      [illegible]
  5        71.2       [illegible]             .[illegible]     1[illegible]
  6        75.1       [illegible]             .[illegible]     1[illegible]
  7        71.3       [illegible]             .93[illegible]     11.75
  8        [illegible]       [illegible]            1.[illegible]     1[illegible]
MIN. CURR. = 60 DB               MAX. CURR. = [illegible]
[illegible] = [illegible] DB
[illegible] = [illegible]
VAR[illegible] = 64 DB
```

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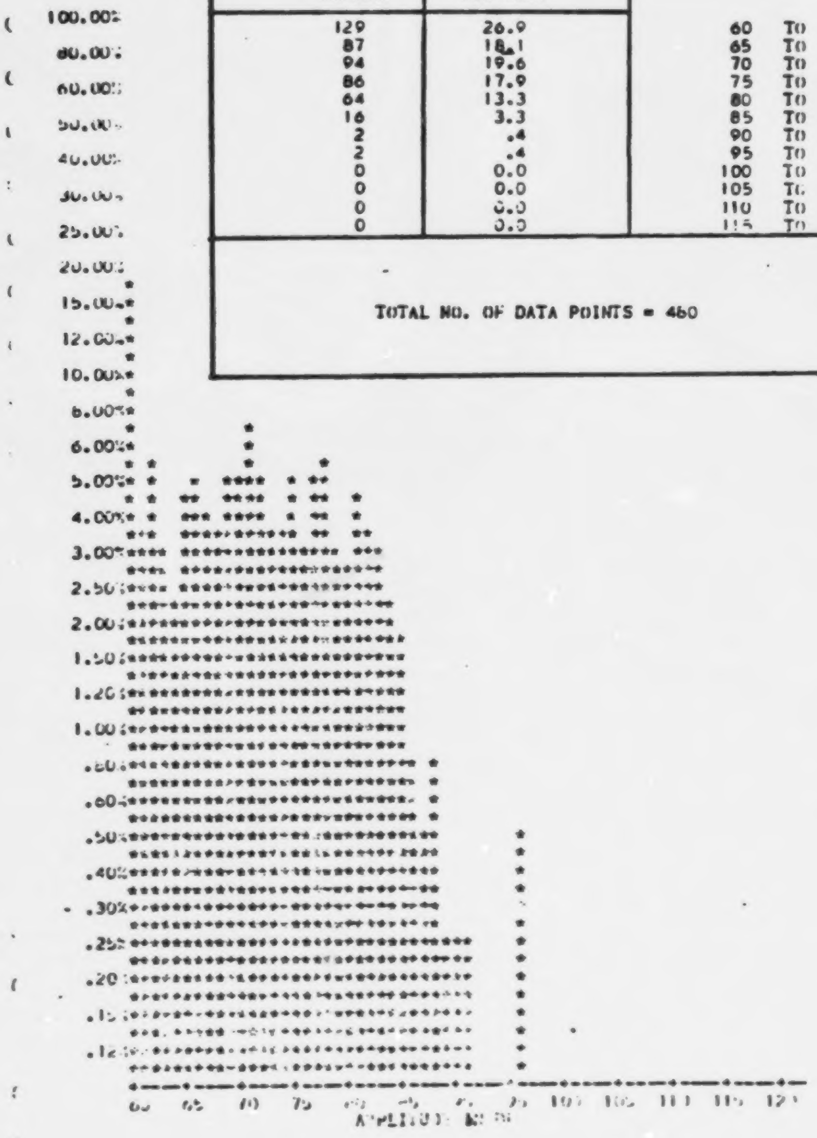
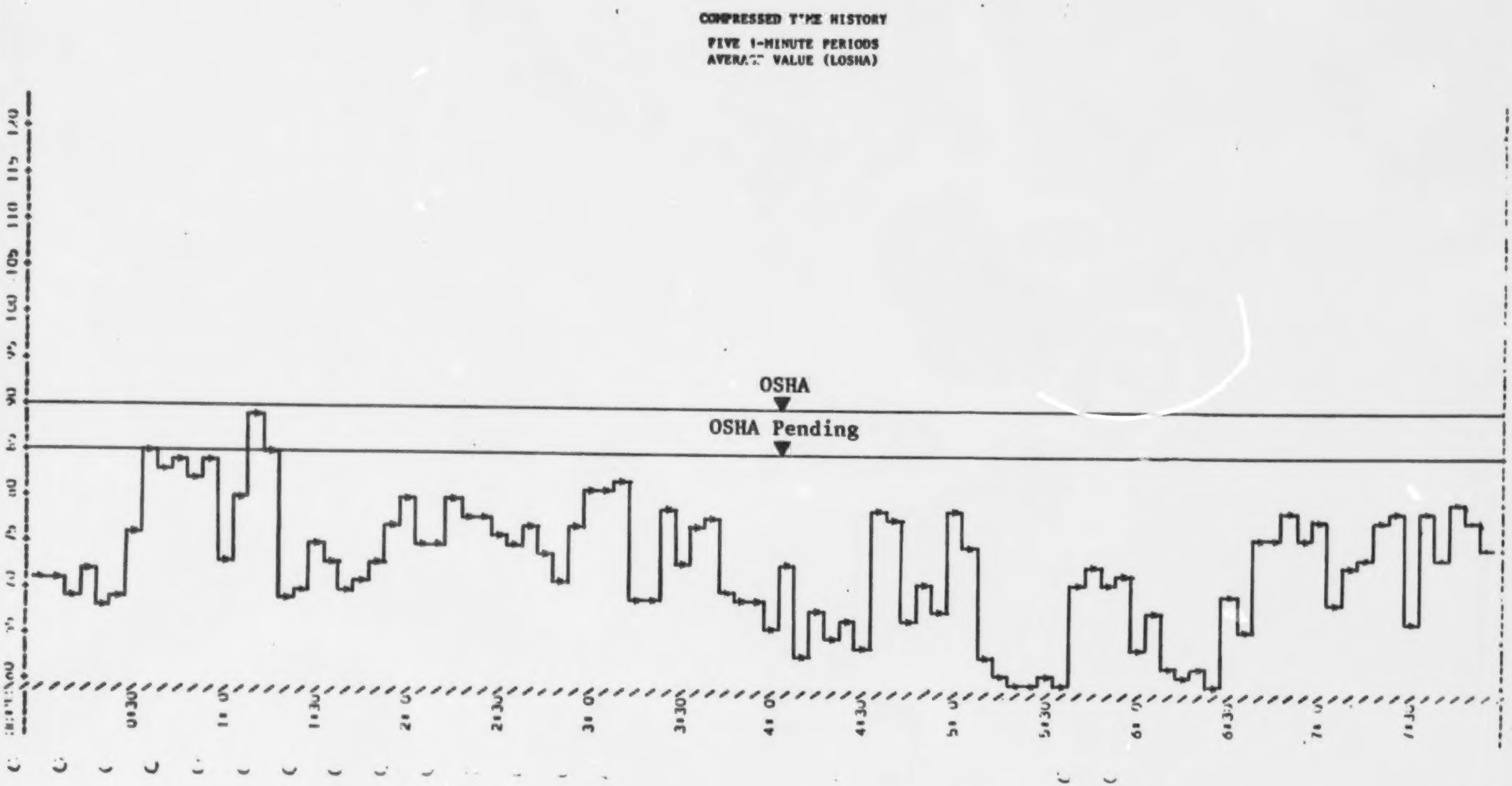
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
129	26.9	60 TO 64
87	18.1	65 TO 69
94	19.6	70 TO 74
86	17.9	75 TO 79
64	13.3	80 TO 84
16	3.3	85 TO 89
2	.4	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 460



Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

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Mechanic

```
[illegible]
  1  26  80  1215   60   64    4    1
   23021     115200  480
 76  70  77  78  73  66  71  71  77  68  70  63  62  60  60  60
 69  69  69  65  84  81  63  61  70  80  79  81  86  91  91  89
 89  77  69  87  87  78  82  87  84  83  70  64  64  64  72  76
 64  77  73  75  67  77  62  60  60  68  60  63  69  76  80  74
 62  66  73  72  63  66  62  62  63  68  77  60  68  60  60  74
 80  73  81  79  83  88  82  77  75  67  80  82  64  61  64  60
 63  64  77  73  76  61  67  66  68  68  74  80  74  81  79  69
 75  74  79  79  78  78  76  77  74  60  77  76  78  75  74  73
 77  76  63  77  72  69  67  77  73  70  74  72  73  70  75  80
 76  80  71  79  60  60  60  60  60  60  67  66  61  63  64  60
 60  75  84  60  81  79  74  76  73  80  68  88  91  76  71  64
 74  76  76  79  74  71  78  75  77  76  74  70  71  82  80  76
 77  75  84  80  76  80  81  81  79  80  76  60  60  60  64  64
 60  67  64  65  79  80  79  78  82  71  77  69  72  64  66  76
 78  68  76  79  83  72  72  65  62  67  70  72  70  70  73  73
 77  70  68  62  61  64  61  60  62  66  62  62  65  66  61  65
 64  60  64  69  60  60  60  60  60  60  60  60  69  71  60  62
 63  71  60  61  61  65  69  70  69  63  70  74  79  78  69  72
 75  81  80  82  71  68  67  68  66  69  70  64  64  74  72  69
 66  68  65  64  80  82  81  69  63  65  82  79  70  63  63  61
 60  61  61  61  60  60  60  60  61  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  61  61  68
 78  70  74  77  72  70  81  77  68  65  65  64  64  71  67  74
 76  66  69  65  69  72  74  60  65  67  60  64  66  62  62  66
 61  67  67  60  64  63  72  94  91  88  85  78  96  97  98  99
 98 100  85  98 100  99  98  87  94  93 100  81  69  75  92  86
 81  79  82  77  76  74  83  75  75  73  78  69  75  66  60  70
 72  69  70  70  71  68  61  70  93 100  98  99  86  87  87  84
 84  86  95  98 100  97  83  85  87  88  86  96  96  97  99  89
 82  86  87  87  88  89  90  90  83  93  94  80  87  90  89  89
%EOF



ENTER LOG DATE (DD/MM/YR) : 06/07/79

ENTER SITE CODE (5 CHARS) : 2HOIR

ENTER USER CODE (4 CHARS) : 1135
 ENTER JOB CODE (3 CHARS) : 018



   DATA LOGGED : 6 JULY 1979            DATA ANALYZED : 29  AUG 1979
         LOGGER : DB-301/26                  SITE CODE : 2HOIR
 SERIAL NUMBER : 1215                         JOB CODE : 018
      BASELINE : 60 DB                       USER CODE : 1135
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   1:39:40


          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES


 TIME          LOSHA                          %DOSE
 HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1       79.3       79.3             2.825       2.82
    2       75.5       77.6             1.693       4.51
    3       75.9       77.1             1.767       6.27
    4       75.5       76.7             1.671       7.95
    5       69.4       75.7              .723       8.67
    6       70.0       75.1              .778       9.45
    7       88.6       79.3            10.319      19.76
    8       89.7       81.7            11.935      31.70
 MIN. COMP. =  60 DB                  MAX. COMP. = 100 DB
 ARITHMETIC MEAN =  73 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 DB
```

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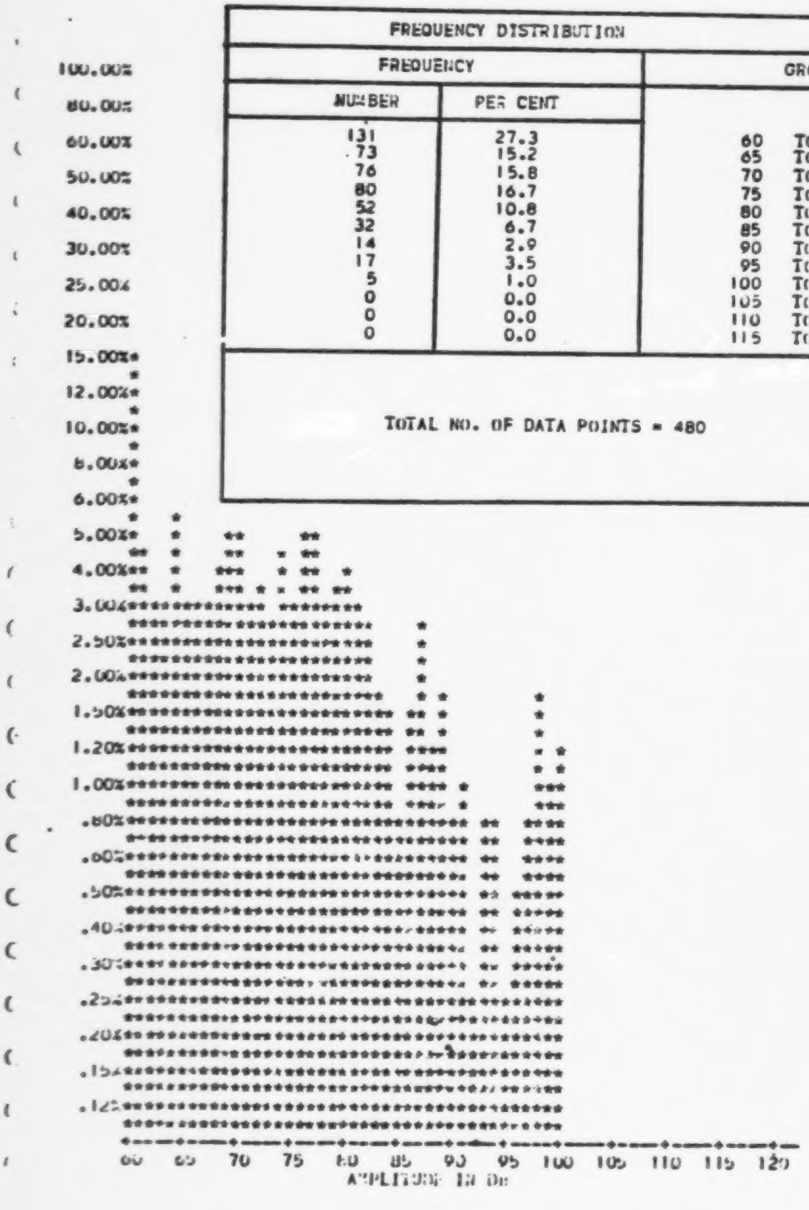
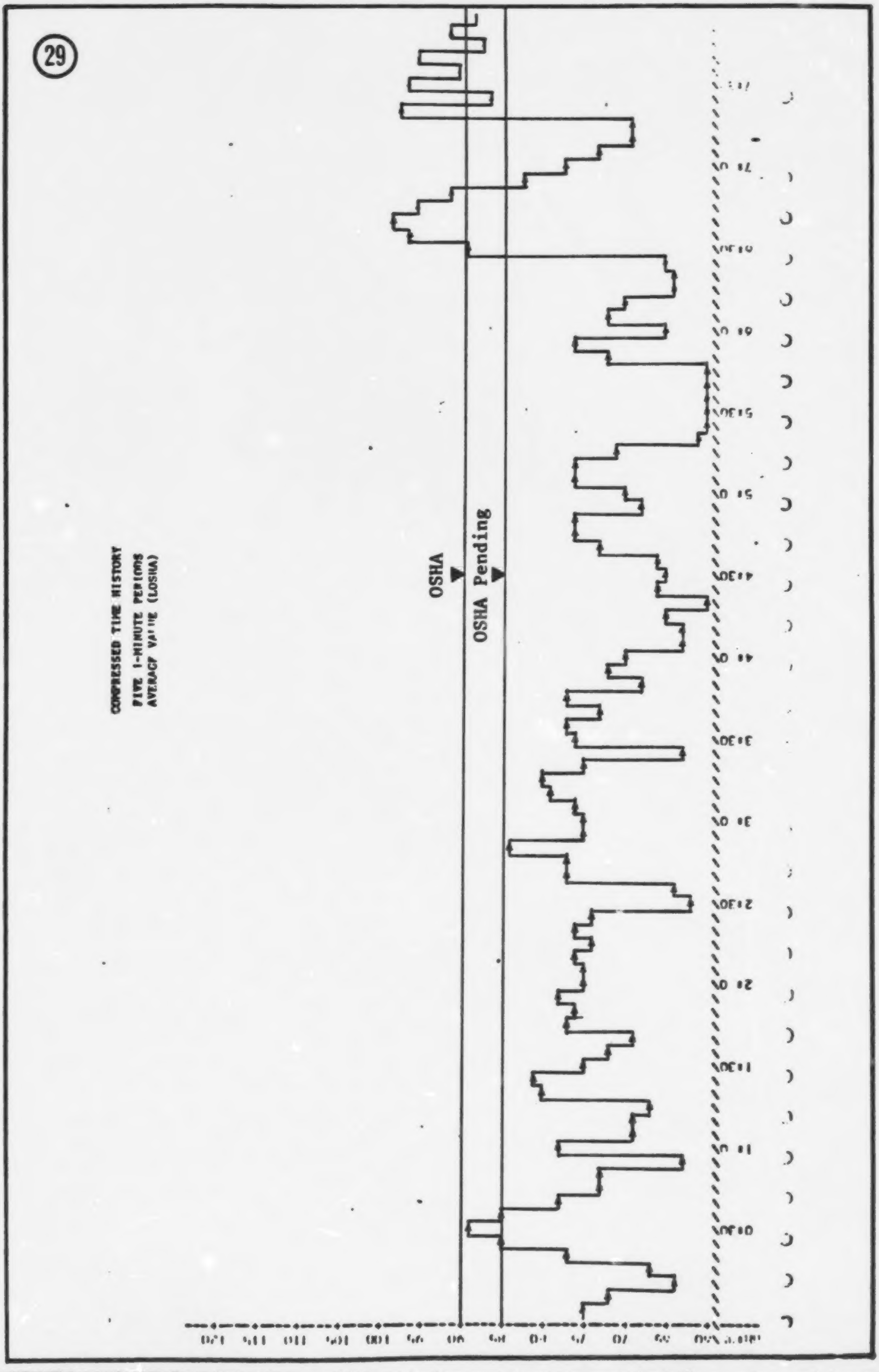
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
131	27.3	60 TO 64
73	15.2	65 TO 69
76	15.8	70 TO 74
80	16.7	75 TO 79
52	10.8	80 TO 84
32	6.7	85 TO 89
14	2.9	90 TO 94
17	3.5	95 TO 99
5	1.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



29
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
120
115
110
105
100
95
90
85
80
75
70
65
60
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

Mechanic ㉚

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
   1   20   80   1224    60    64     4     1
  25.404      115200   480
   74   74   68   79   79   63   65   69   74   67   68   76   72   79   76   83
   64   64   83   84   79   78   79   79   73   67   68   62   56   65   66   66
   73   66   66   66   73   80   78   79   75   75   72   71   64   69   64   72
   80   75   73   77   82   78   76   90   85   83   73   85   76   79   74   76
   75   76   86   78   79   83   86   84  103  103  101  102   84   77   70   80
   75   65   67   84   84   79   68   66   73   74   71   75   67   72   70   73
   66   72   69   75   73   74   74   76   74   69   74   69   70   63   73   70
   71   74   76   65   70   80   73   65   68   71   64   63   62   71   64   60
   62   60   60   61   63   66   71   70   67   73   72   68   60   83   75   82
   77   82   83   73   80   82   84   91   91   84   85   60   65   66   80   65
   60   60   60   60   72   60   71   90   82   85   84   83   83   83   83   83
   84   85   86   87   87   86   85   85   85   87   86   86   85   83   85   84
   84   84   85   83   83   84   83   85   85   85   85   84   83   84   83   83
   85   85   86   89   83   87   86   86   88   91   90   84   84   84   85   74
   70   75   73   74   77   74   74   77   63   60   69   65   69   60   67   63
   60   60   60   65   63   66   61   60   70   65   64   60   67   68   65   67
   67   60   71   62   68   64   64   62   71   60   60   63   71   70   70   67
   66   76   67   76   65   74   71   75   84   85   69   71   73   56   63   60
   72   61   63   72   65   70   67   62   64   63   78   80   64   74   64   70
   83   78   70   65   67   63   60   62   62   63   62   62   62   62   61   60
   62   62   62   63   62   62   63   62   60   63   61   61   62   63   64   62
   60   60   60   65   81   70   63   62   64   60   66   60   60   60   61   60
   60   60   60   60   60   60   60   60   61   62   60   65   74   60   60   66
   60   60   70   60   63   63   66   62   63   63   61   60   60   60   60   61
   60   64   61   63   64   60   74   75   72   72   68   66   80   75   85   81
   74   69   66   79   73   71   79   74   68   75   77   79   78   77   75   79
   64   73   73   68   74   81   75   70   73   67   70   60   72   71   77   69
   74   73   69   70   81   75   66   61   80   75   76   72   64   66   65   70
   79   86   78   71   85   87   70   76   84   81   69   67   68   67   63   77
   76   70   68   77   75   69   76   73   76   79   77   76   86   75   61   61
%EOF



ENTER LOG DATE (DD/MM/YR) : 06/07/79

ENTER SITE CODE (5 CHARS) : #2SHA
ENTER USER CODE (4 CHARS) : 0519
 ENTER JOB CODE (3 CHARS) : 036



    DATA LOGGED : 6 JULY 1979              DATA ANALYZED : 11 SEPT 1979
         LOGGER : GB-301/26                     SITE CODE : #2SHA
  SERIAL NUMBER : 1224                          JOB CODE  : 036
       BASELINE : 60 DB                         USER CODE : 0519
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
  TEST DURATION =    8: 0: 0                 STANDBY TIME =   1845:41


            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME            LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1      77.2      77.2           2.123      2.12
   2      85.1      82.2           6.327      8.45
   3      79.2      81.3           2.816     11.27
   4      83.5      81.9           5.079     16.35
   5      70.2      80.7            .862     17.15
   6      67.5      79.6            .554     17.70
   7      71.4      78.9           1.005     18.71
   8      76.4      78.6           1.[illegible]     20.[illegible]
MIN. CONC. =  60 DB             MAX. CONC. = 103 DB
ARITHMETIC MEAN =  72 DB
STD. DEVIATION =   7.33
VARIANCE = [illegible] DB
```

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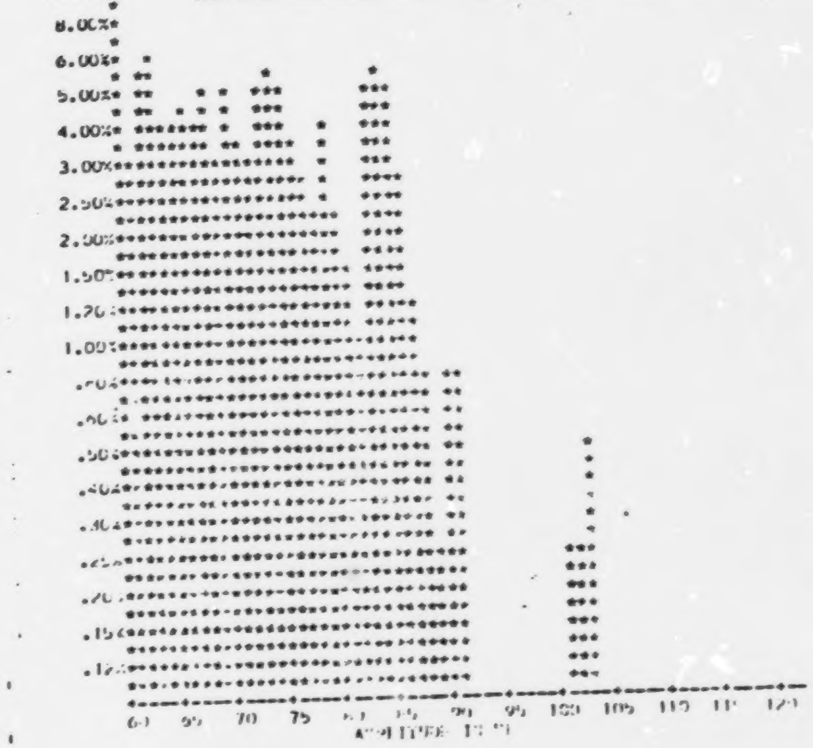
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
127	26.5	60 TO 64
82	17.1	65 TO 69
90	18.8	70 TO 74
70	14.6	75 TO 79
60	12.5	80 TO 84
41	8.5	85 TO 89
6	1.3	90 TO 94
0	0.0	95 TO 99
4	.8	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

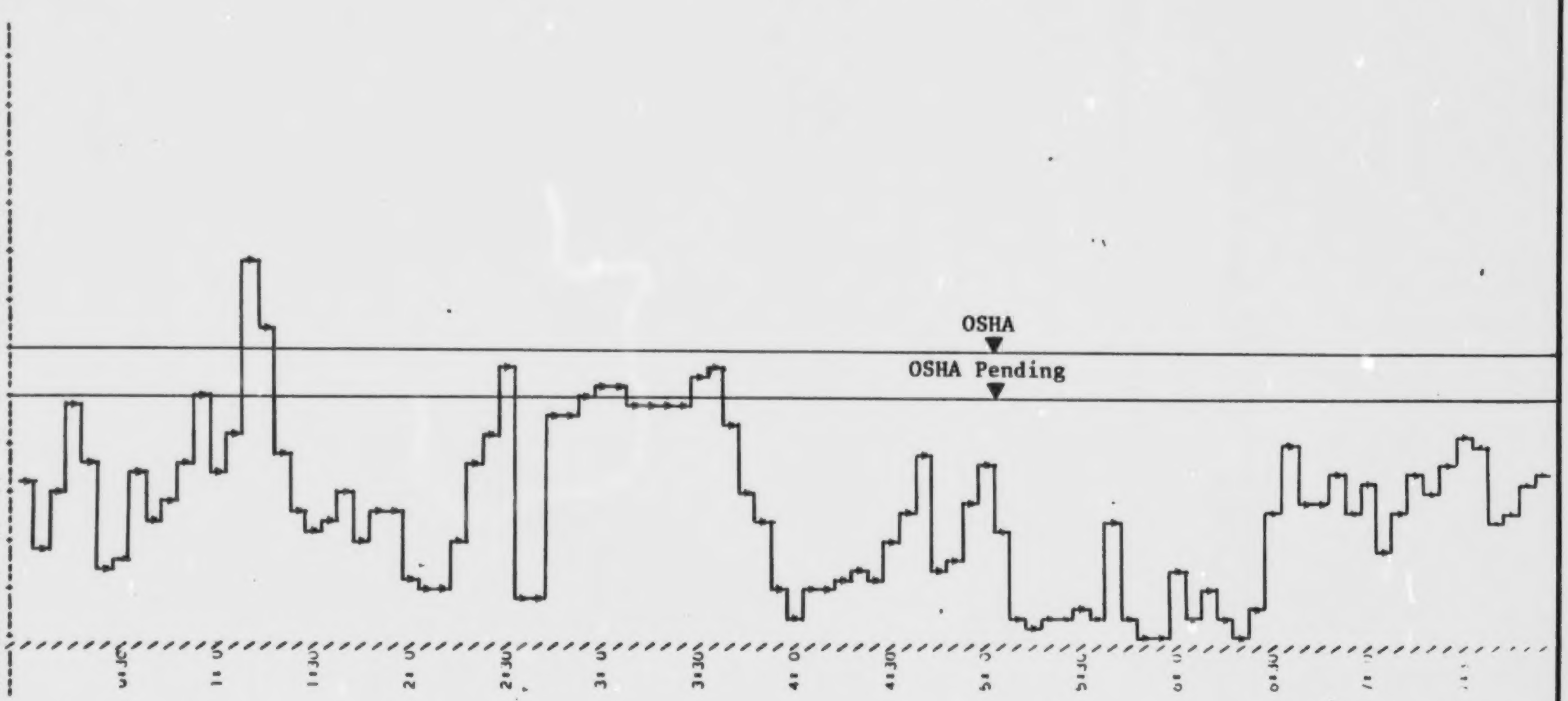
TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(31)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A #SPACE# AND A #RETURN#
  1  26  80  1221   60   64    4    1
   25HST      115200   480
   81   85   77   82   75   76   84   87   73   61   60   60   63   59   64   85
   74   70   62   82   80   60   64   76   72   72   67   66   67   59   59   60
   66   63   64   89   70   65   64   67   83   64   71   66   74   92   83   90
   78   75   76   72   67   68   72   76   82   74   85   80   76   72   92   70
   65   76   76   [illegible]   72   71   60   74   72   76   73   73   75   78   78   85
   96   92   95   84   82   78   76   73   84   57   77   79   78   86   59   64
   70   69   71   74   86   80   73   79   78   77   74   79   80   72   63   60
   69   66   67   77   71   80   79   81   83   76   80   82   85   86   76   70
   74   78   76   71   64   73   74   64   65   67   68   72   70   74   74   74
   65   67   64   67   74   61   60   60   65   66   67   69   67   91   90   90
   92   90   90   91   90   90   90   89   90   90   89   90   90   91   89   91
   93   91   90   91   90   91   91   90   90   90   90   91   89   92   90   89
   90   91   91   91   90   90   91   91   90   91   90   89   91   90   90   89
   90   90   88   90   90   89   89   90   90   89   89   90   90   90   90   89
   90   90   89   90   92   92   91   91   90   90   91   90   93   91   92   91
   91   91   91   91   91   92   90   91   90   91   91   90   91   90   91   91
   89   90   91   93   92   91   92   83   77   65   60   60   60   60   60   60
   60   60   60   60   61   60   71   60   62   76   74   60   60   60   60   60
   60   60   60   60   60   66   61   60   60   60   60   63   65   60   60   60
   62   60   64   72   80   79   66   75   89   91   90   90   90   91   92   91
   89   90   91   90   90   89   90   91   90   89   90   90   91   92   90   90
   89   90   90   90   89   90   89   90   91   92   90   90   90   90   90   91
   93   91   90   90   90   92   91   91   90   90   89   88   90   90   89   89
   88   90   89   89   89   89   90   89   89   89   89   85   89   90   88   89
   87   70   63   79   76   78   81   79   74   82   91   85   91   91   90   89
   91   66   89   90   89   90   66   91   90   88   89   73   74   84   82   75
   77   74   74   83   81   70   75   63   60   73   74   70   84   89   89   81
   82   75   76   79   84   80   85   66   87   89   89   87   86   78   73   74
   75   77   70   73   68   77   81   82   75   81   80   81   86   74   80   74
   68   61   62   75   74   62   73   81   81   75   81   82   82   92   74   76
&EOF



ENTER LOG DATE (MD/MM/YR) : 06/07/79
ENTER SITE CODE (5 CHARS) : 25HST
ENTER USER CODE (4 CHARS) : 5360
 ENTER JOB CODE (3 CHARS) : 001



    DATA LOGGED : 6 JULY 1979              DATA ANALYZED : 11 SEPT 1979
         LOGGER : DB-301/26                    SITE CODE : 25HST
  SERIAL NUMBER : 1221                          JOB CODE : 001
       BASELINE : 60 DB                        USER CODE : 5360
  DYNAMIC RANGE : 64 DB                        THRESHOLD : 40 DB
  SAMPLING RATE : 4/SEC                    TOTAL SAMPLES = 1152[illegible]
  TEST DURATION =   8: 0: 0                 STANDBY TIME =   1:45:27

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE  = 85 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                    %DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1       75.2       75.2          1.613       1.61
   2       73.7       74.5          4.432       6.04
   3       84.9       81.3          6.153      11.26
   4       90.2       84.7         12.925      24.17
   5       [illegible]       84.7          5.771      2[illegible]
   6       87.[illegible]       8[illegible]         [illegible]       4[illegible]
   7       87.4       8[illegible]          [illegible].721       [illegible]
   8       79.4       [illegible]          3.2[illegible]       [illegible]
MIN. COMP. =  60 DB                 MAX. COMP. =  9[illegible] DB
ARITHMETIC MEAN =  7[illegible] DB
STANDARD DEVIATION =  11[illegible]
VARIANCE =1[illegible]
```

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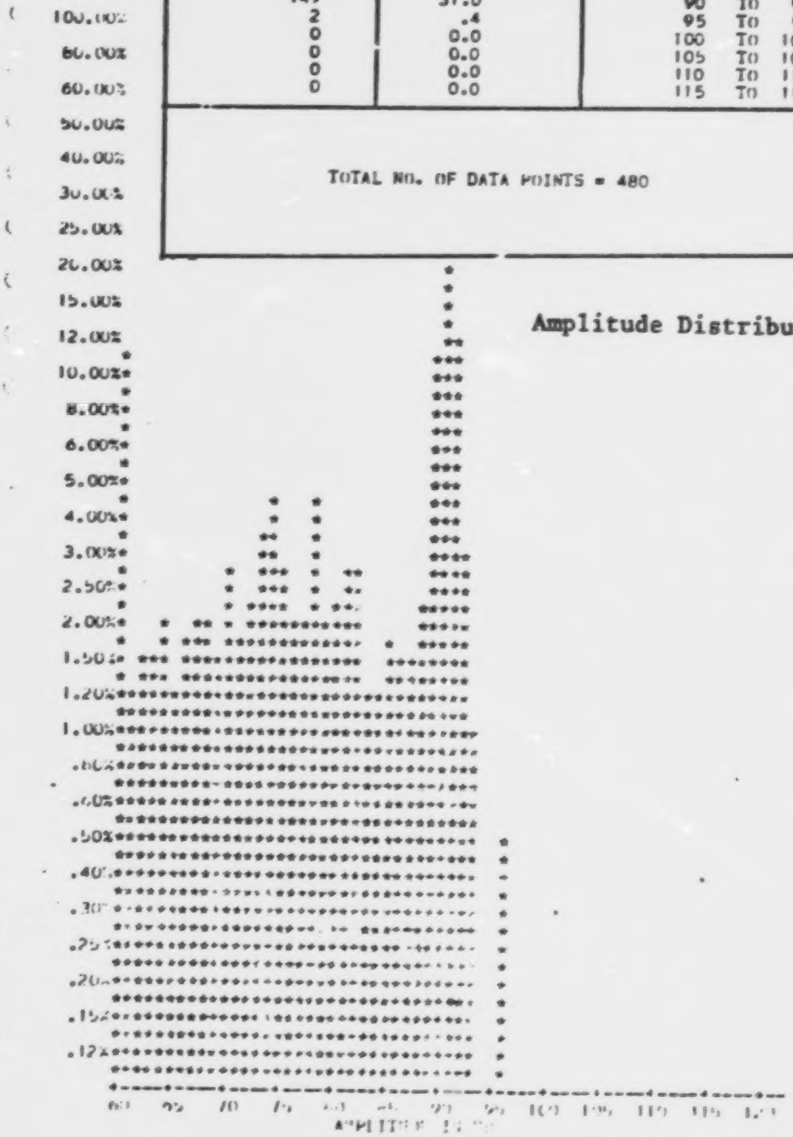
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
71	14.8	60 TO 64
34	7.1	65 TO 69
58	12.1	70 TO 74
53	11.0	75 TO 79
41	8.5	80 TO 84
72	15.0	85 TO 89
149	31.0	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		



Amplitude Distribution

Number of computations = 480

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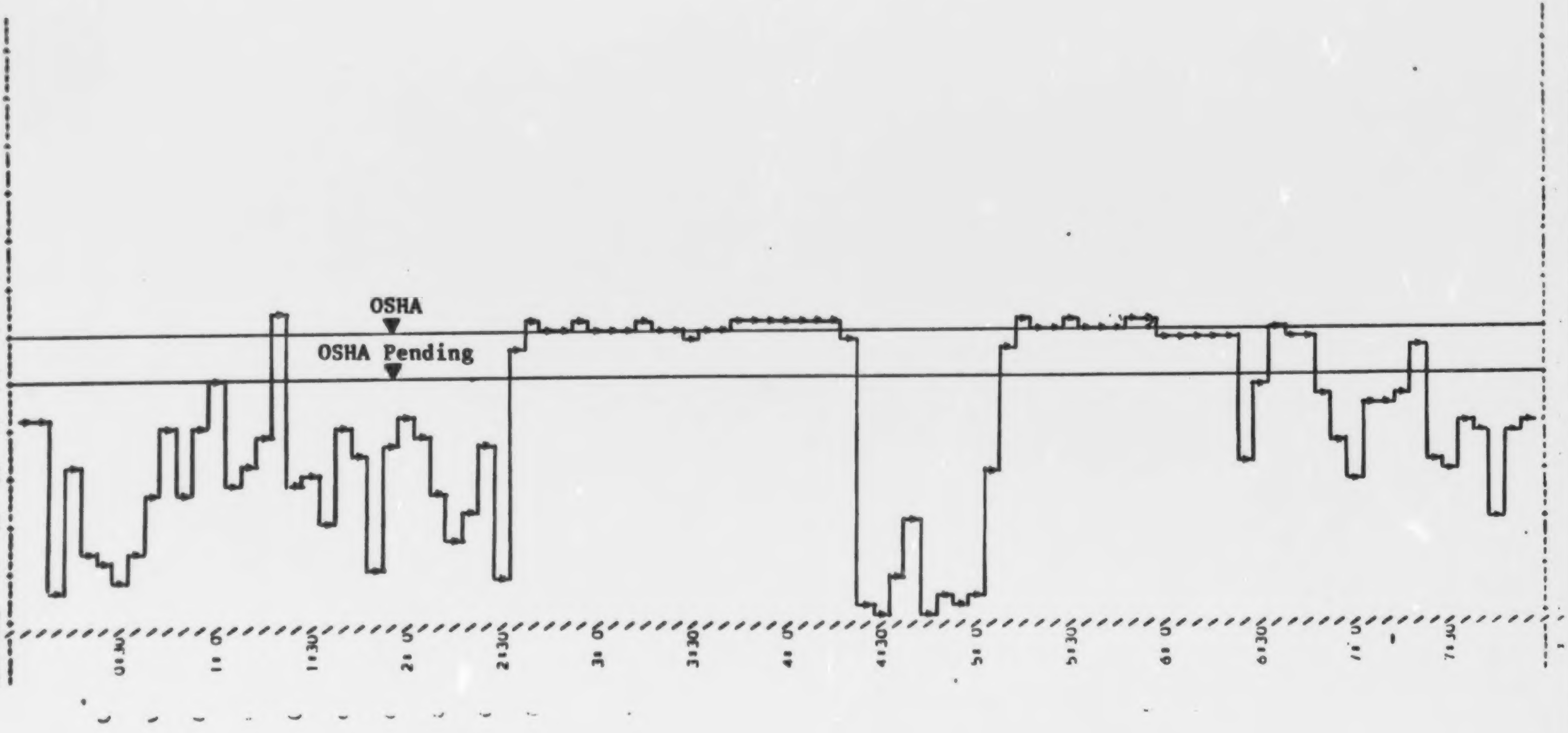
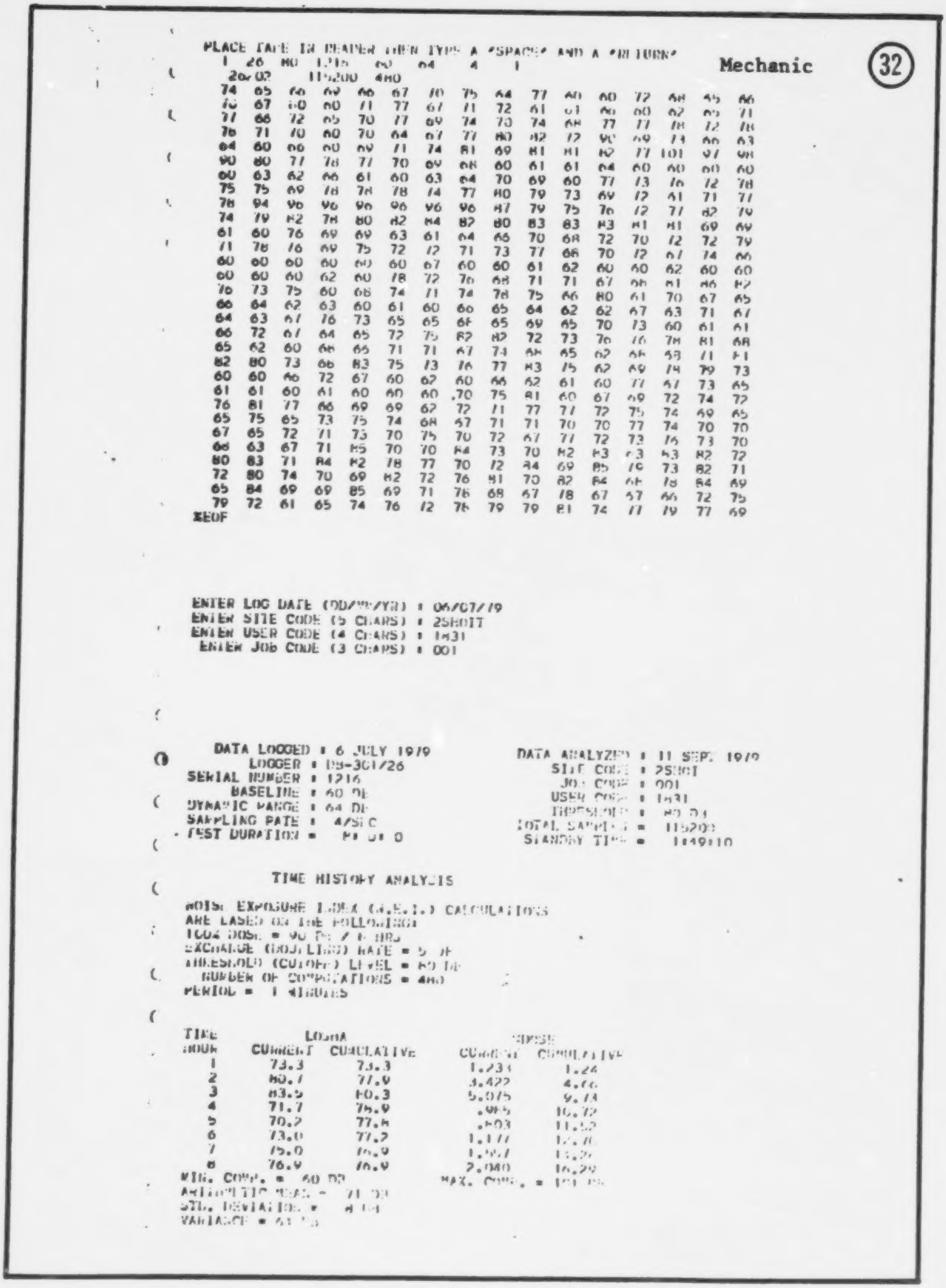
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





Mechanic ㉜

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  26  80  1216   60   64    4    1
  26/02    115200  480
 74  65  66  69  66  67  70  75  64  77  60  60  72  68  65  66
 76  67  60  60  71  77  67  71  72  61  61  60  60  62  65  71
 77  66  72  65  70  77  69  74  73  74  68  77  77  78  72  78
 76  71  70  80  70  64  67  77  80  82  72  90  69  73  66  63
 64  60  66  60  69  71  74  81  69  81  81  82  77 101  97  98
 90  80  77  78  77  70  69  68  60  61  61  64  60  60  60  60
 60  63  62  66  61  60  63  64  70  69  60  77  73  76  72  78
 75  75  69  78  78  78  74  77  80  79  73  69  72  61  71  77
 78  94  96  96  96  96  96  96  87  79  75  76  72  71  82  79
 74  79  82  78  80  82  84  82  80  83  83  83  81  81  69  69
 61  60  76  69  69  63  61  64  66  70  68  72  70  72  72  79
 71  78  76  69  75  72  72  71  73  77  66  70  72  67  74  66
 60  60  60  60  60  60  67  60  60  61  62  60  60  62  60  60
 60  60  60  62  60  78  72  76  68  71  71  67  66  81  86  82
 76  73  75  60  68  74  71  74  78  75  66  80  61  70  67  65
 66  64  62  63  60  61  60  66  65  64  62  62  67  63  71  67
 64  63  67  76  73  65  65  68  65  69  65  70  73  60  61  61
 66  72  67  64  65  72  75  82  82  72  73  76  76  78  81  68
 65  62  60  66  65  71  71  67  74  66  65  62  66  53  71  81
 82  80  73  66  83  75  73  76  77  83  75  62  69  74  79  73
 60  60  66  72  67  60  62  60  66  62  61  60  77  67  73  65
 61  61  60  61  60  60  60 .70  75  81  60  67  69  72  74  72
 76  81  77  66  69  69  62  72  71  77  77  72  75  74  69  65
 65  75  65  73  75  74  68  67  71  71  70  70  77  74  70  70
 67  65  72  71  73  70  75  70  72  67  77  72  73  76  73  70
 66  63  67  71  85  70  70  84  73  70  82  83  63  63  82  72
 80  83  71  84  82  78  77  70  72  84  69  85  79  73  82  71
 72  80  74  70  69  82  72  76  81  70  82  84  66  78  84  69
 65  84  69  69  85  69  71  76  68  67  78  67  67  66  72  75
 79  72  61  65  74  76  72  76  79  79  81  74  77  79  77  69
%EOF



ENTER LOG DATE (DD/MM/YR) : 06/07/79
ENTER SITE CODE (5 CHARS) : 25HOIT
ENTER USER CODE (4 CHARS) : 1831
 ENTER JOB CODE (3 CHARS) : 001



    DATA LOGGED : 6 JULY 1979              DATA ANALYZED : 11 SEPT 1979
          LOGGER : DS-301/26                     SITE CODE : 25HOI
 SERIAL NUMBER : 1216                             JOB CODE : 001
       BASELINE : 60 DB                           USER CODE : 1831
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0                  STANDBY TIME =   1:49:10

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME            LOSHA                         DOSE
 HOUR    CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
    1       73.3       73.3            1.233       1.24
    2       80.7       77.9            3.422       4.66
    3       83.5       80.3            5.075       9.73
    4       71.7       78.9             .985      10.72
    5       70.2       77.8             .803      11.52
    6       73.0       77.2            1.177      12.70
    7       75.0       76.9            1.557      14.26
    8       76.9       76.9            2.040      16.29
 MIN. COMP. =  60 DB                  MAX. COMP. = 101 DB
 ARITHMETIC MEAN =   71 DB
 STD. DEVIATION =    8 [illegible]
 VARIANCE = 61 [illegible]
```

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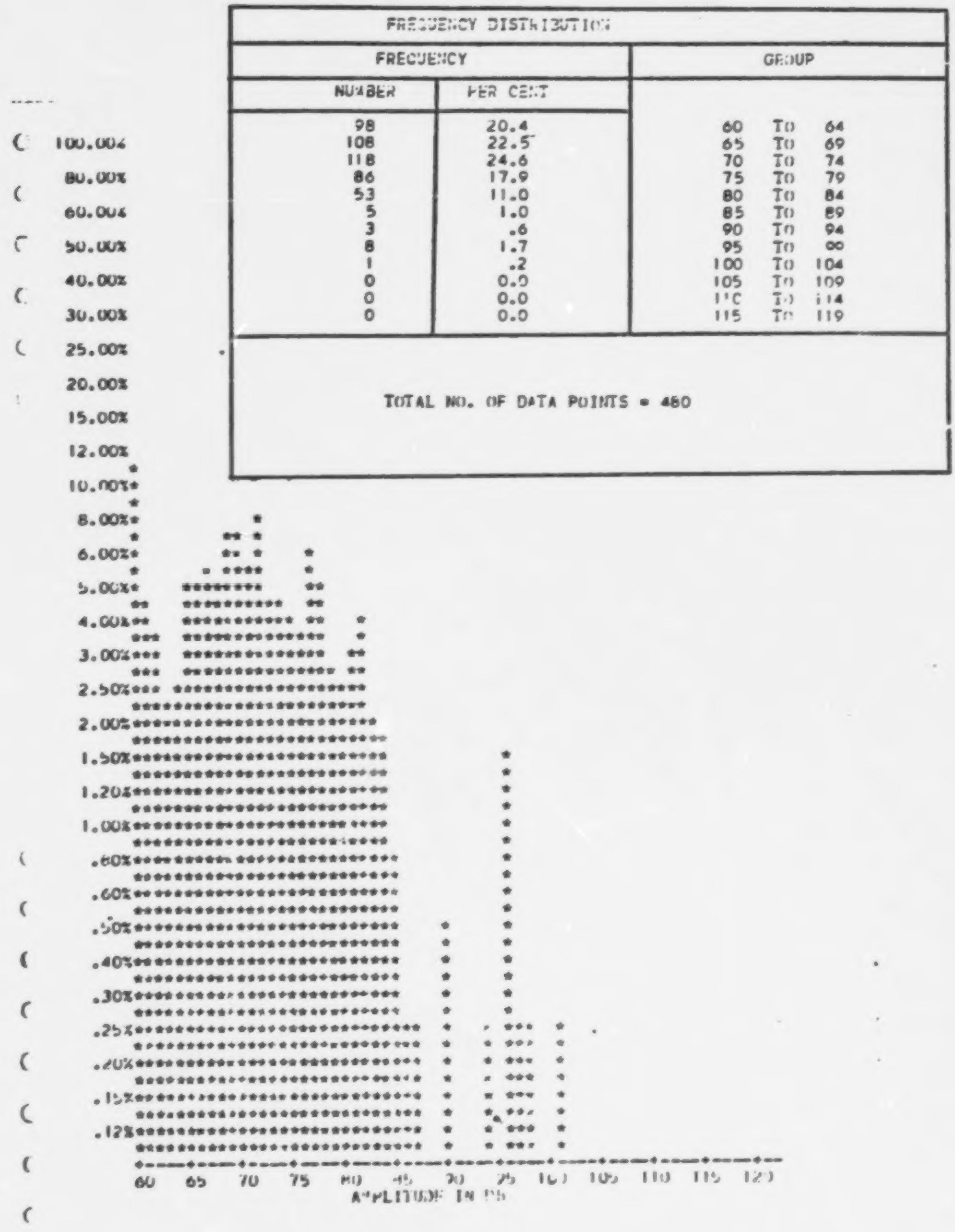
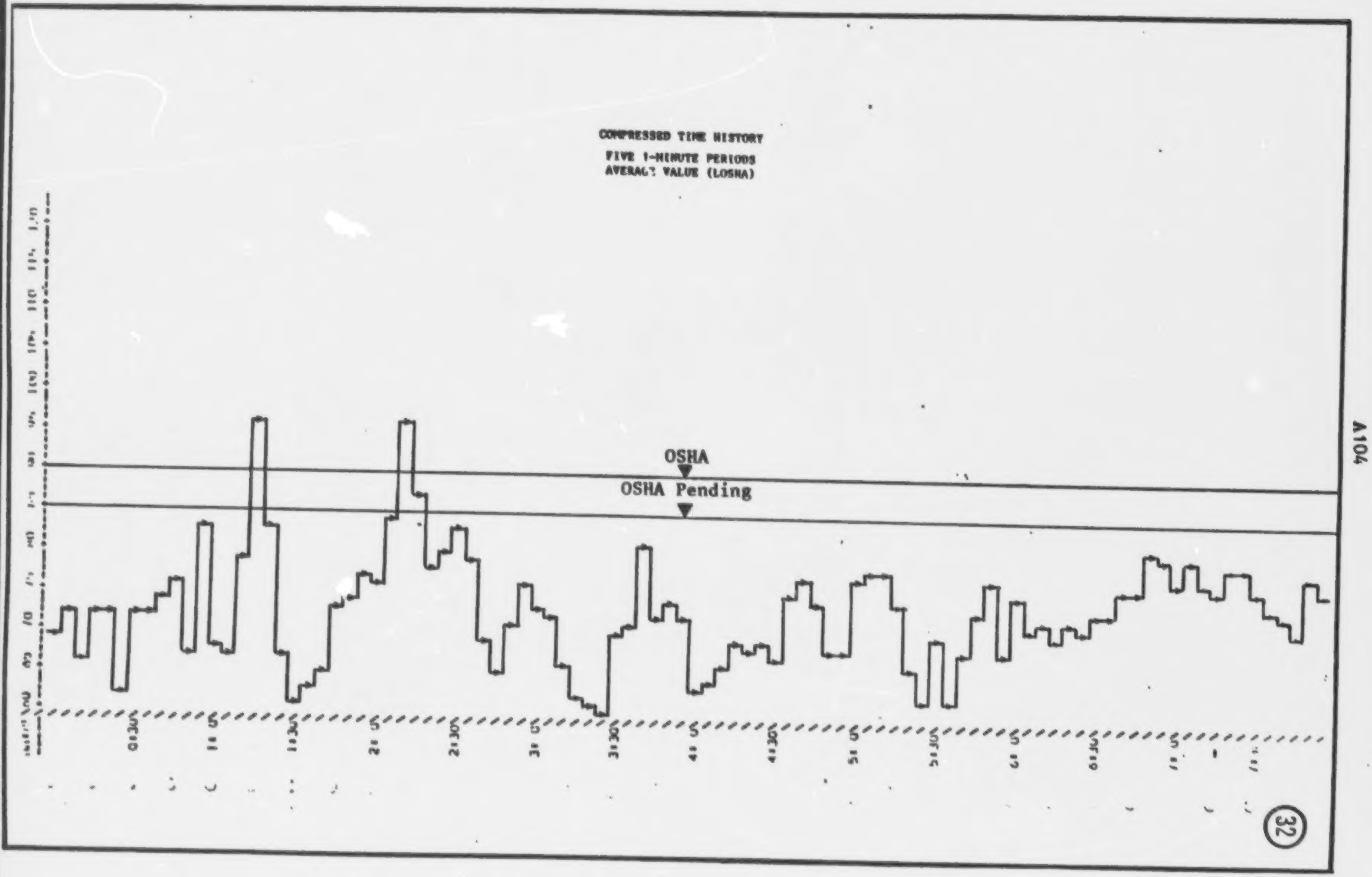
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
98	20.4	60 TO 64
108	22.5	65 TO 69
118	24.6	70 TO 74
86	17.9	75 TO 79
53	11.0	80 TO 84
5	1.0	85 TO 89
3	.6	90 TO 94
8	1.7	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:30
2:30
3:30
4:30
5:30
6:30
32

㉝ **Mechanic**

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
  1  26  80  1215   60   64    4    1
  27751    115200  480
  78  75  74  87  83  60  60  60  60  67  61  60  63  64  60  61
  60  60  60  60  60  63  70  67  65  69  64  75  77  60  60  60
  74  90  74  73  66  68  69  63  65  71  69  67  64 106  79  76
  79  80  79  75  80  73  78  81  76  87  60  66  69  64  61  69
  65  71  60  60  60  60  60  60  60  60  60  60  62  85  79  60
  71  60  76  91  94  75  61  63  64  75  80  75  75  77  68  76
  88  80  86  71  80  77  73  60  75  78  62  69  63  71  90  78
  89  85  88  76  61  60  60  60  60  60  60  60  60  60  60  85
  73  73  78  80  81  79  75  73  64  63  69  75  80  83  87  76
  64  60  60  60  60  60  60  60  61  60  60  60  60  60  67  60
  62  97  71  80  76  64  60  64  62  72  76  74  73  74  76  83
  80  82  78  76  77  77  66  84  82  69  60  60  60  61  60  60
  62  62  61  66  72  66  72  70  80  83  78  73  82  82  68  63
  63  60  60  66  64  87  84  92  92  91  91  90  90  91  90  90
  92  91  90  90  91  90  90  90  91  87  88  83  85  84  84  82
  77  84  85  79  78  84  60  72  60  60  60  60  60  64  70  67
  66  63  60  60  64  74  74  87  60  60  60  60  60  60  60  61
  60  60  60  60  60  60  63  79  82  79  84  82  88  87  74  74
  66  60  62  60  61  60  60  60  60  60  64  68  60  64  68  71
  72  60  60  65  76  60  63  60  60  72  69  60  61  60  71  72
  75  80  70  60  62  60  60  88  60  66  71  73  63  85  66  87
  88  87  85  85  66  87  88  86  75  78  77  71  60  60  75  72
  79  60  75  72  72  74  65  69  61  70  68  76  68  75  65  66
  67  85  80  73  71  76  73  67  60  71  69  67  68  62  60  70
  69  66  66  83  82 100  89  92  85  79  60  89  92  76  89  73
  65  76  60  70  65  74  67  65  61  85  84  81  78  66  79  74
  83  83  60  72  80  77  77  72  82  74  80  77  81  82  71  79
  63  86  84  82  88  85  89  86  80  82  82  84  80  88  65  85
  87  78  77  62  62  64  67  60  60  71  64  63  62  73  76  71
  85  84  81  85  82  78  79  72  79  63  60  71  63  86  87  87
XEOF



ENTER LOG DATE (DD/MM/YR) : 06/07/79

ENTER SITE CODE (5 CHARS) : 2SHOR
ENTER USER CODE (4 CHARS) : 0552
 ENTER JOB CODE (3 CHARS) : X01



    DATA LOGGED : 6 JULY 1979          DATA ANALYZED : 11 SEPT 1979
         LOGGER : DS-301/26                SITE CODE : 2SHOR
  SERIAL NUMBER : 1215                      JOB CODE : X01
       BASELINE : 60 DB                    USER CODE : 0552
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC             TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0           STANDBY TIME =   1:55:37

             TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPILATIONS = 480
  PERIOD =  1 MINUTES


  TIME          LOSHA                      DOSE
  HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
     1      80.5       80.5          3.359       3.36
     2      78.2       79.4          2.423       5.78
     3      77.2       78.8          2.129       7.91
     4      84.5       80.7          5.846      13.76
     5      74.8       79.8          1.525      15.28
     6      77.4       79.5          2.175      17.46
     7      80.6       79.7          3.392      20.85
     8      80.9       79.8          3.531      24.38
  MIN. COMP. =  60 DB             MAX. COMP. = 106 DB
  ARITHMETIC MEAN =  72 DB
  STD. DEVIATION =  10 DB
  VARIANCE =103 DB
```

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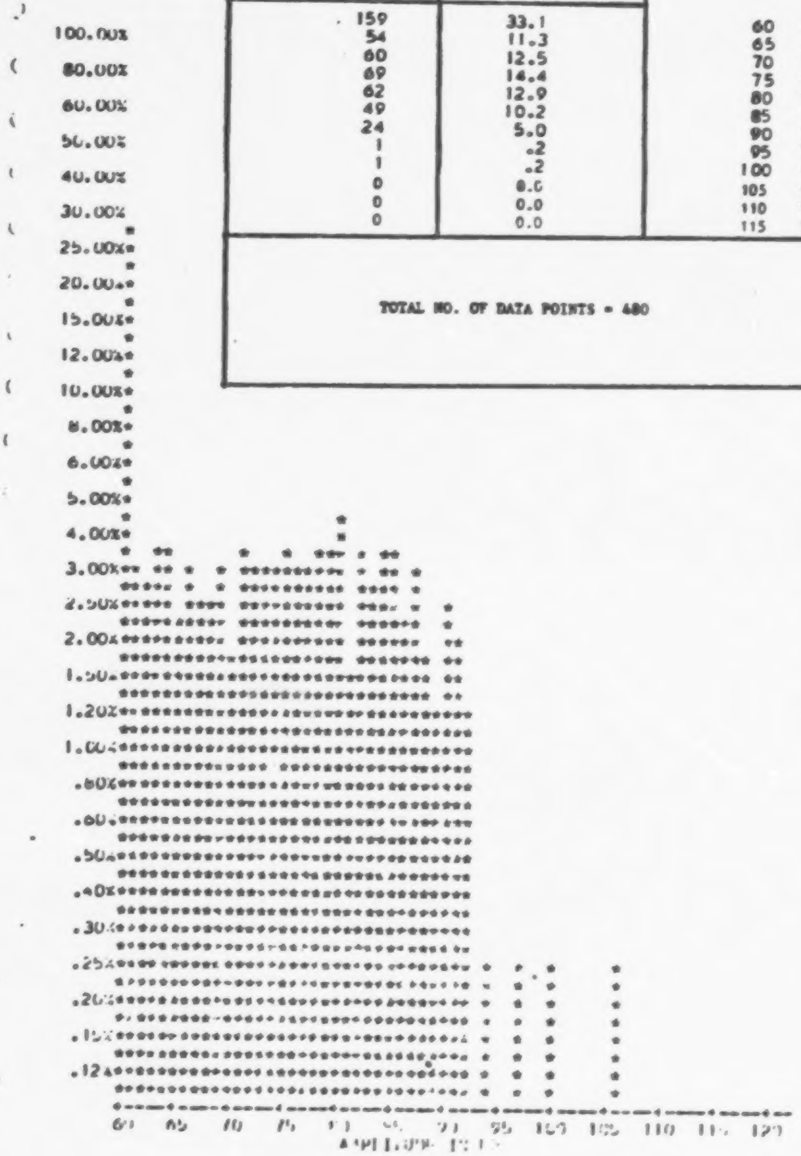
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
159	33.1	60 TO 64
54	11.3	65 TO 69
60	12.5	70 TO 74
69	14.4	75 TO 79
62	12.9	80 TO 84
49	10.2	85 TO 89
24	5.0	90 TO 94
1	.2	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 114

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

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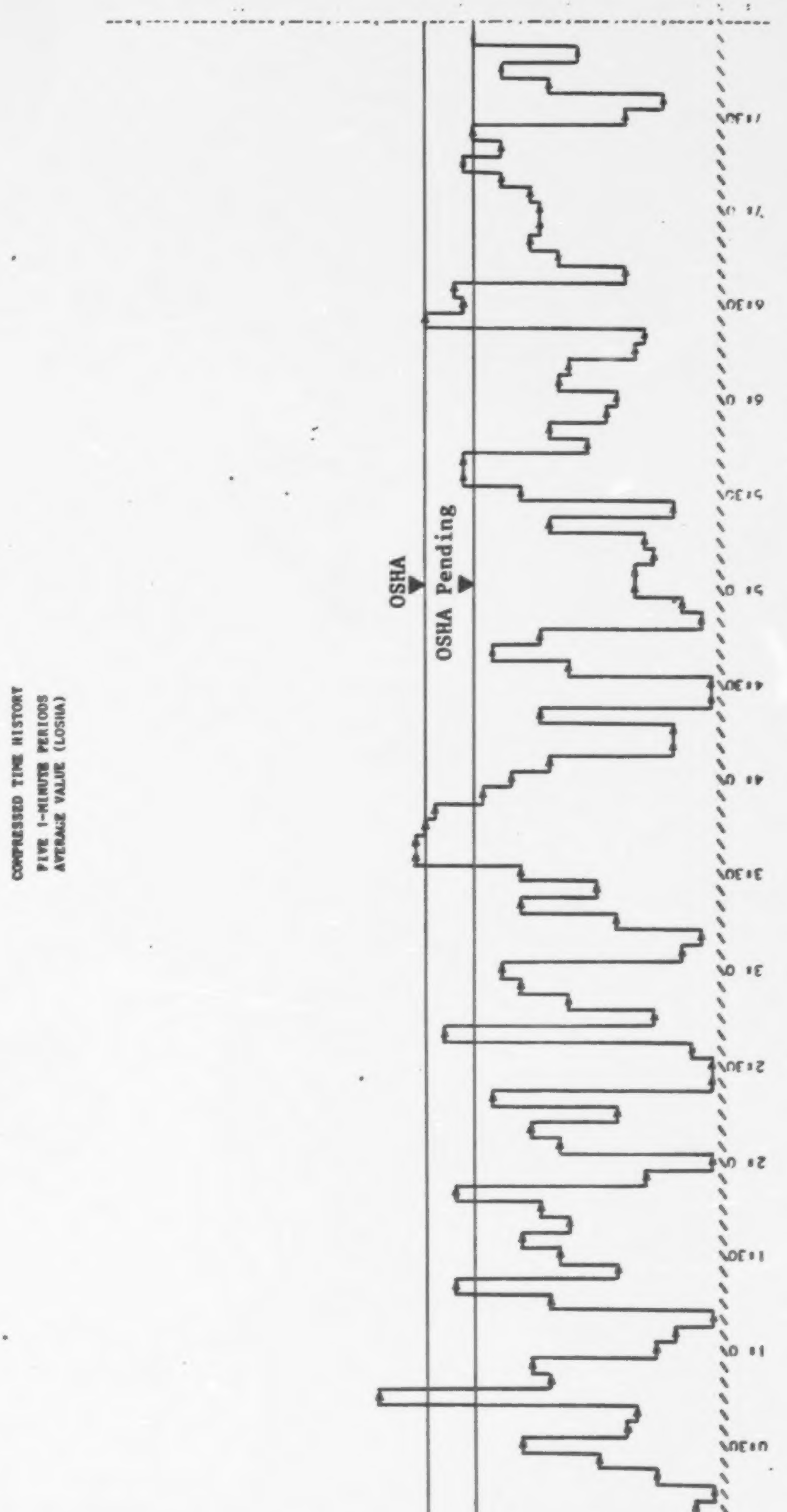
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Carpenter ㉞

```
[illegible]
ENTER LOG DATE (MM/DD/YR) : 14/[illegible]/79
ENTER SITE CODE (4 CHARS) : [illegible]

ENTER USER CODE (4 CHARS) : 6802
 ENTER JOB CODE (3 CHARS) : 060
  1  2   85  1212   60   64    4    1
   36800      111751  465
  61  69  95  90  89  90  92  89  84  86  87  87  87  88  91  90
  89  89  90  90  90  90  87  85  88  87  88  86  87  88  88  89
  89  88  89  89  88  88  89  87  87  87  86  89  89  89  89  89
  89  88  88  89  88  88  88  89  67  60  60  60  60  60  60  60
  60  67  88  89  89  89  90  89  88  87  87  87  87  87  87  86
  89  89  89  89  90  91  92  92  91  89  88  87  89  90  90  90
  90  88  88  89  88  88  88  87  76  70  60  61  60  60  60  60
  60  60  60  63  63  63  61  75  64  60  60  60  60  60  60  61
  90  89  87  90  89  89  88  86  89  88  88  88  88  88  88  88
  88  88  88  86  88  88  86  86  87  88  88  86  80  66  65  60
  60  60  65  60  60  71  74  67  78  70  70  69  60  70  66  72
  64  67  68  65  67  66  69  66  67  61  65  64  65  63  67  67
  68  65  66  60  60  63  73  64  63  63  71  83  63  64  62  61
  62  60  65  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  61  62  69  69  64  66  65  65  62
  67  71  64  67  60  63  60  72  74  69  62  70  67  60  60  60
  60  60  61  61  60  60  60  60  60  60  64  60  60  60  60  60
  61  60  60  61  60  60  61  60  60  60  60  60  60  65  66  60
  61  60  70  71  67  69  73  73  71  68  66  64  61  60  64  60
  60  60  73  65  60  60  60  61  61  60  60  60  60  60  80  81
  70  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  89  85  60  60  67  60  60  60  60
  60  60  60  63  80  79  81  63  64  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  69  60  63
  65  60  61  60  60  60  60  60  60  60  83  71  60  77  61  62
  60  60  60  60  60  62  63  60  62  61  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  64  70  60  65  60  60  62  70  60  72  70  70  69  69  73
  72  73  77  69  60  60  68  60  60  61  60  67  60  63  60  60
  63  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




   DATA LOGGED :13 JUNE 1979              DATA ANALYZED : 21  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : SHOP
 SERIAL NUMBER : 1212                            JOB CODE : 060
       BASELINE : 60 DB                         USER CODE : 6802
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  111751
 TEST DURATION =   7:45:37                  STANDBY TIME =   2:33:20

                              1

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 465
PERIOD =  1 MINUTES


TIME           LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
   1       88.0       88.0              9.493       9.49
   2       85.8       87.0              6.936      16.43
   3       83.3       85.9              4.943      21.37
   4       68.7       84.1               .648      22.02
   5       64.9       82.6               .385      22.41
   6       69.9       81.5               .769      23.17
   7       63.9       80.5               .335      23.51
   8       65.7       79.9               .324      23.83
MIN. COMP. =  60 DB                  MAX. COMP. =  95 DB
ARITHMETIC MEAN =  69 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

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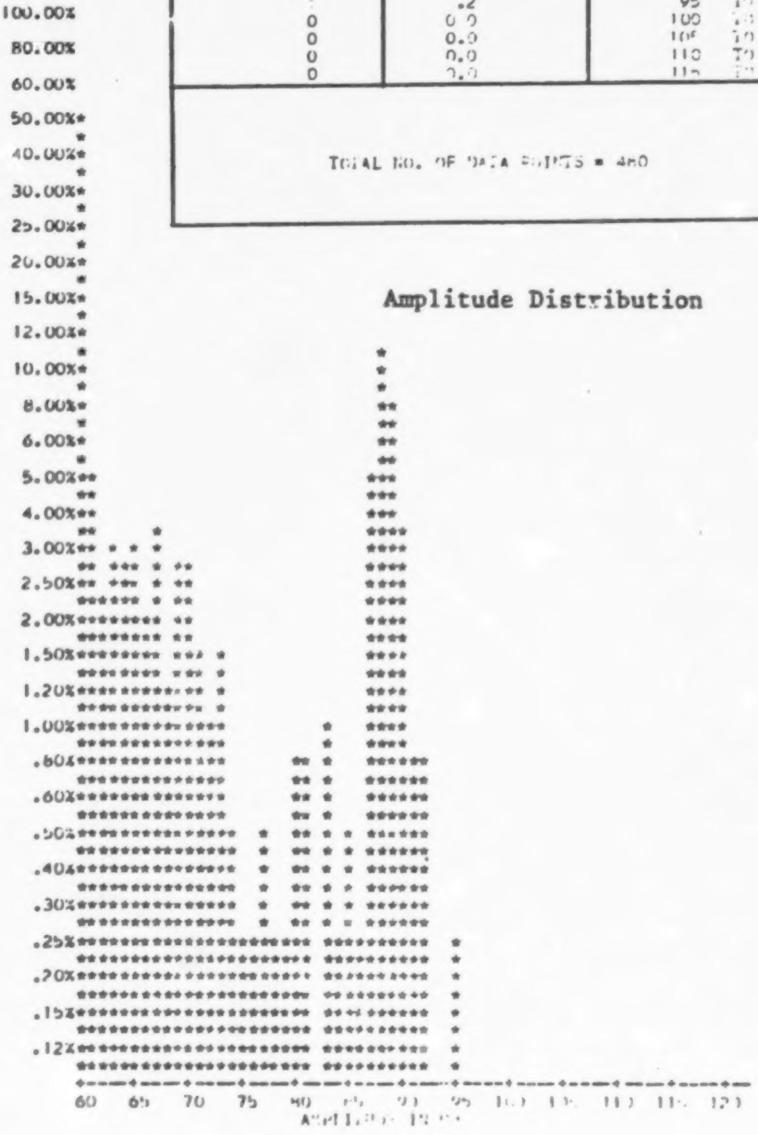
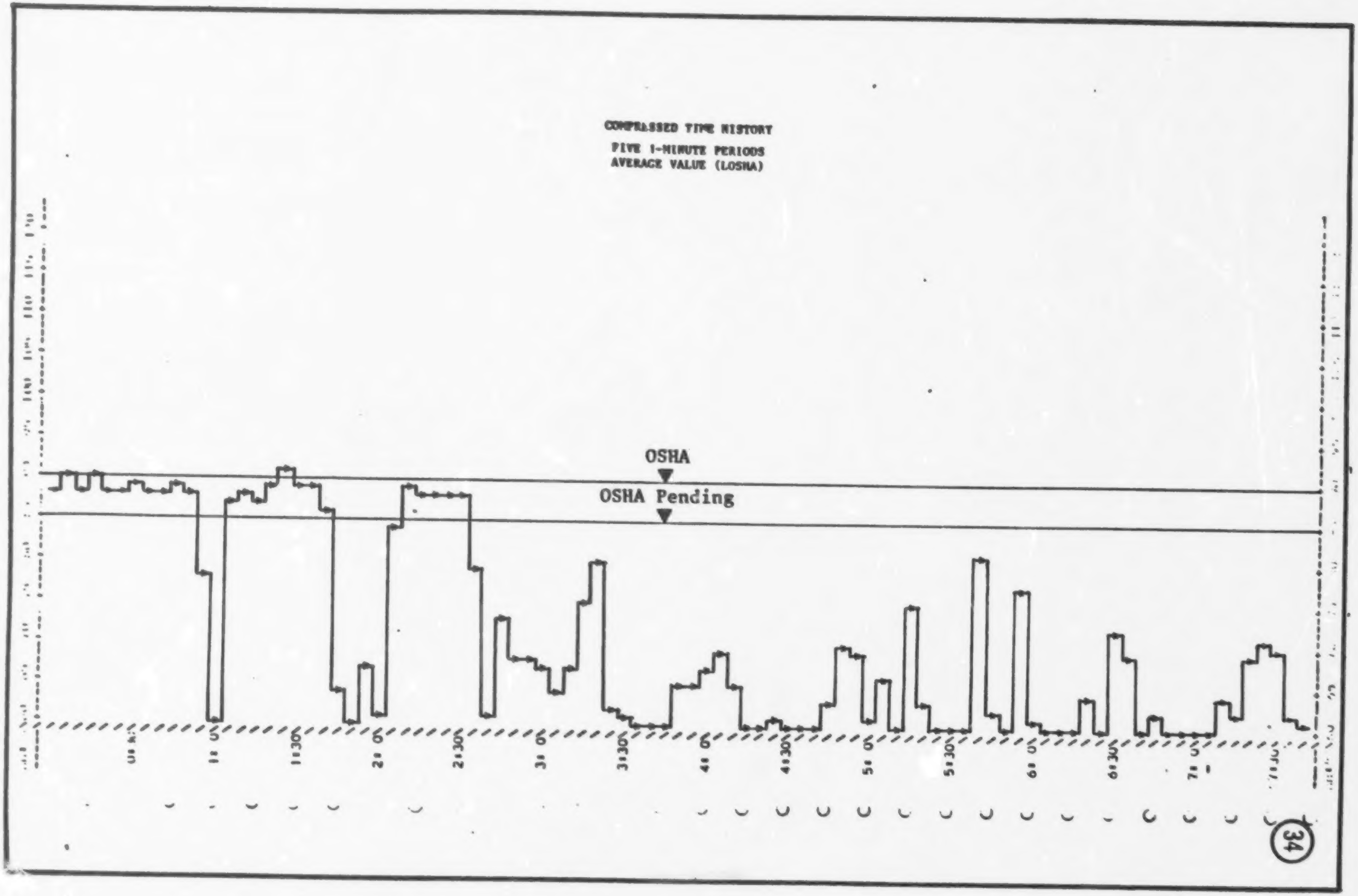
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
262	54.6	60 TO 64
50	10.4	65 TO 69
29	6.0	70 TO 74
6	1.3	75 TO 79
11	2.3	80 TO 84
100	20.8	85 TO 89
21	4.4	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Amplitude Distribution



Number of computations = 465



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

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Carpenter

```
ENTER LOG DATE (DD/MM/YR) : 13
ENTER SITE CODE (5 CHARS) : SA
RUNS IN AUTOMATIC RECALL
   DROPPED P = 016541
..DB6510S
ENTER LOG DATE (DD/MM/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : MOAFO
ENTER USER CODE (4 CHARS) : 6438
 ENTER JOB CODE (3 CHARS) : 060

  1  26  85  1214   60   64    4    1
  44/66     113697  473
  75  60  64  60  60  60  60  60  60  60  60  66  61  65  61  60
  60  60  60  60  60  80  86  79  86  88  84  76  68  79  84  64
  61  67  63  61  60  70  68  64  60  60  60  60  60  61  65  60
  65  60  60  60  60  60  60  60  60  60  66  60  60  60  61  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  64  60
  60  60  60  60  73  62  60  60  60  60  60  61  62  60  64  60
  64  60  78  79  60  60  71  79  60  71  71  65  61  64  60  66
  63  60  60  60  60  60  60  60  60  60  60  60  60  69  62  60
  60  60  60  60  60  60  62  60  60  60  72  83  90  73  60  60
  60  60  60  60  60  61  61  60  60  64  61  66  60  60  65  60
  60  60  60  60  60  60  64  60  61  63  60  68  77  65  76  67
  68  69  61  73  60  81  85  60  70  63  62  64  74  66  80  71
  71  64  66  65  72  75  68  77  66  60  60  64  75  63  63  64
  73  71  61  60  60  60  62  75  85  66  76  60  61  60  60  64
  67  60  60  60  60  67  79  64  60  60  63  60  63  60  64  60
  60  62  73  62  60  64  60  60  65  61  60  60  60  70  74  65
  74  71  75  63  60  60  60  60  65  60  60  60  60  60  60  60
  67  60  61  60  60  60  60  63  60  60  60  60  62  78  69  60
  66  73  71  71  80  74  61  75  70  69  79  67  79  80  60  69
  63  75  77  76  83  65  67  68  93  84  75  66  81  81  82  74
  66  70  68  70  87  93  92  73  81  61  69  65  65  70  72  65
  62  60  74  60  61  66  64  66  60  71  60  68  60  87  79  65
  65  61  68  61  60  90  89  91  93  86  83  84  85  68  83  76
  74  68  60  60  60  61  61  65  70  62  61  66  60  60  67  60
  66  60  62  89  80  77  85  78  66  64  76  60  66  60  60  63
  60  62  63  73  86  80  60  60  60  60  75  65  71  60  70  60
  60  60  60  66  62  64  60  60  60  68  60  68  69  66  66  63
  60  63  85  64  62  65  66  66  86  78  79  63  76  70  87  81
  88  91  88  65  68  75  75  73  90  88  60  62  62  65  67  65
  72  92  86  91  92  82  72  74  71  60  60  60  60  60  60  60
%EOF

                                                JOB CODE : 060
      BASELINE : 60 DB                         USER CODE : 6438
DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  113697
TEST DURATION =    7:53:44                    START TIME =   3: 6:31


           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 473
PERIOD =  1 MINUTES


TIME            LOSHA                       %DOSE
HOUR      CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1        71.8       71.8             .998      1.00
   2        65.0       69.2             .392      1.39
   3        68.5       69.0             .637      2.03
   4        70.5       69.4             .834      2.86
   5        67.7       69.1             .565      3.43
   6        79.3       72.1            2.818      6.24
   7        75.7       72.7            1.724      7.97
   8        60.0       74.0            2.760     10.73
MIN. COMP. =  60 DB                 MAX. COMP. =  93 DB
ARITHMETIC MEAN =  66 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

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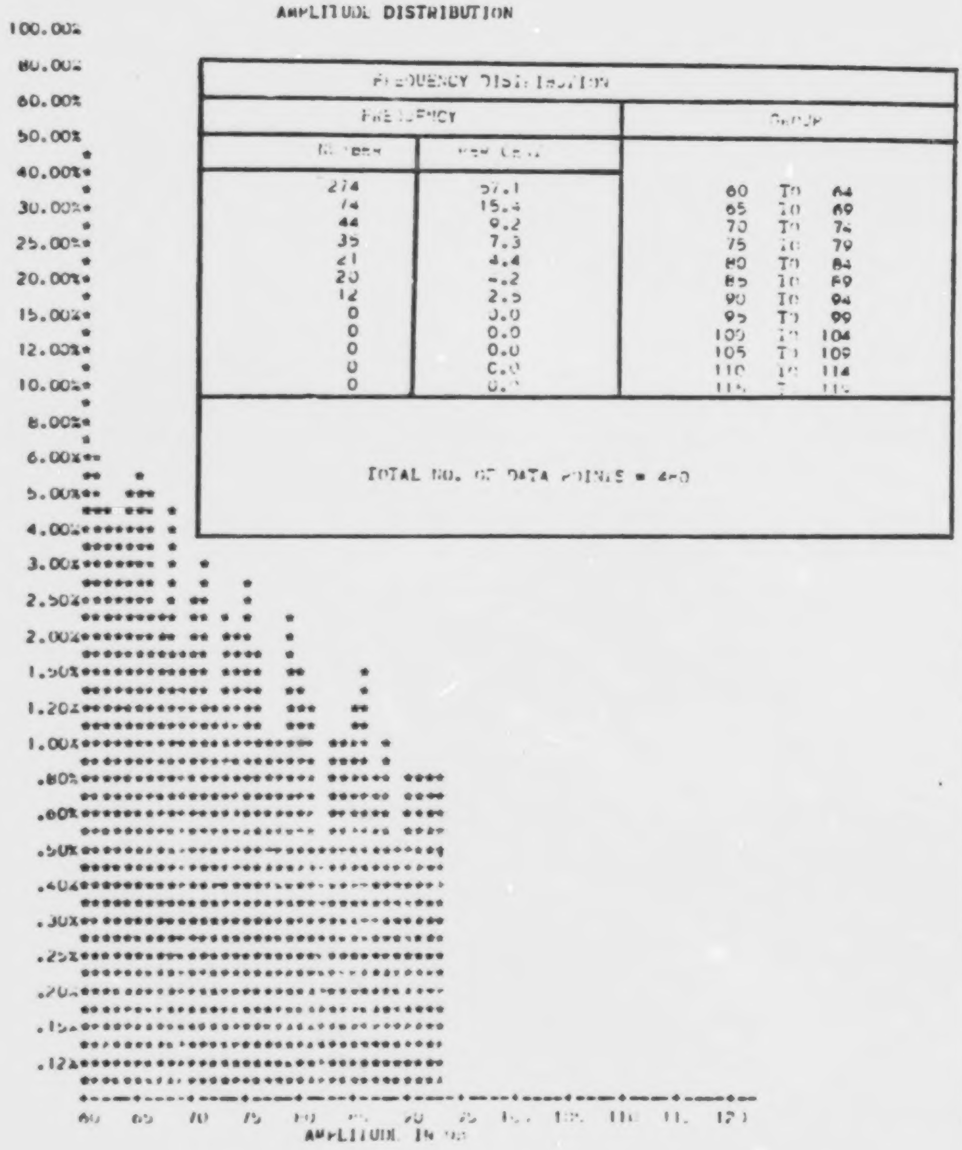

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
274	57.1	60 TO 64
74	15.4	65 TO 69
44	9.2	70 TO 74
35	7.3	75 TO 79
21	4.4	80 TO 84
20	4.2	85 TO 89
12	2.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 473

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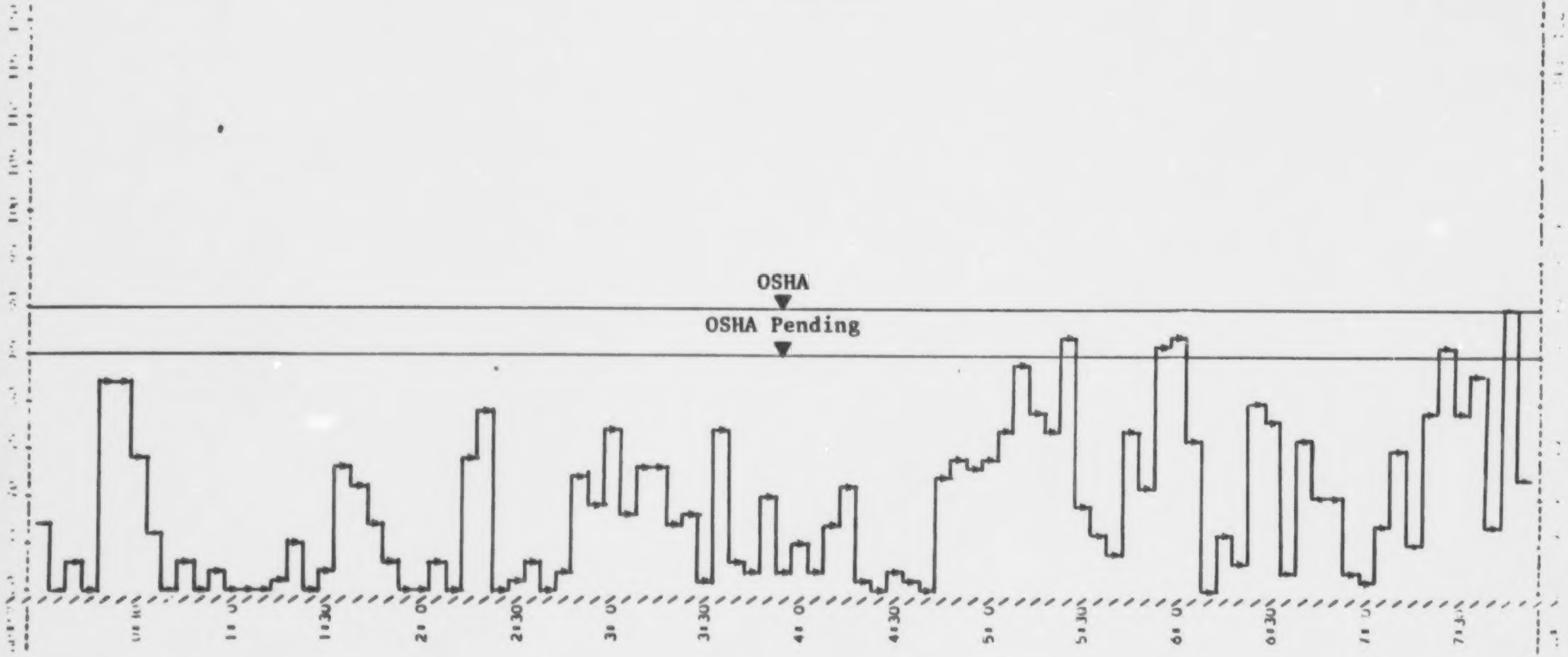
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Carpenter ㊱

```
                        13/06/79
ENTER SITE CODE (5 CHARS) : [illegible]
ENTER DATA CODE (4 CHARS) : 6729
 ENTER JOB CODE (3 CHARS) : 080
  1  26  85  1226   60   64    4     1
      238     115200  480
  77  74  72  60  71  60  60  60  60  60  60  60  60  67  62  60
  60  60  65  64  60  60  60  60  65  60  61  65  62  65  74  75
  60  63  60  61  62  61  67  70  65  60  76  64  60  72  80  80
  60  71  70  72  60  66  77  61  61  72  75  74  67  74  71  70
  69  60  60  60  60  63  62  76  75  73  71  70  68  71  75  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  62  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  73  72  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


   DATA LOGGED :13 JUNE 1979            DATA ANALYZED : 21  AUG 1979
        LOGGER : DH-301/26                   SITE CODE : 9KHOU
 SERIAL NUMBER : 1226                         JOB CODE : 080
      BASELINE : 60 DB                       USER CODE : 6729
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0               STANDBY TIME =    0: 0:59

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                       %DOSE
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1       69.9       69.9             .766        .77
    2       64.8       67.8             .382       1.15
    3       60.0       65.0             .195       1.34
    4       61.0       65.0             .225       1.57
    5       60.0       64.3             .195       1.76
    6       60.0       63.7             .196       1.96
    7       60.0       63.3             .195       2.16
    8       60.0       62.9             .196       2.3
 [illegible] = [illegible]                [illegible] = [illegible]
 ARITHMETIC MEAN = 61 DB
 STD. DEVIATION =   4 DB
 VARIANCE = 15 DB
```

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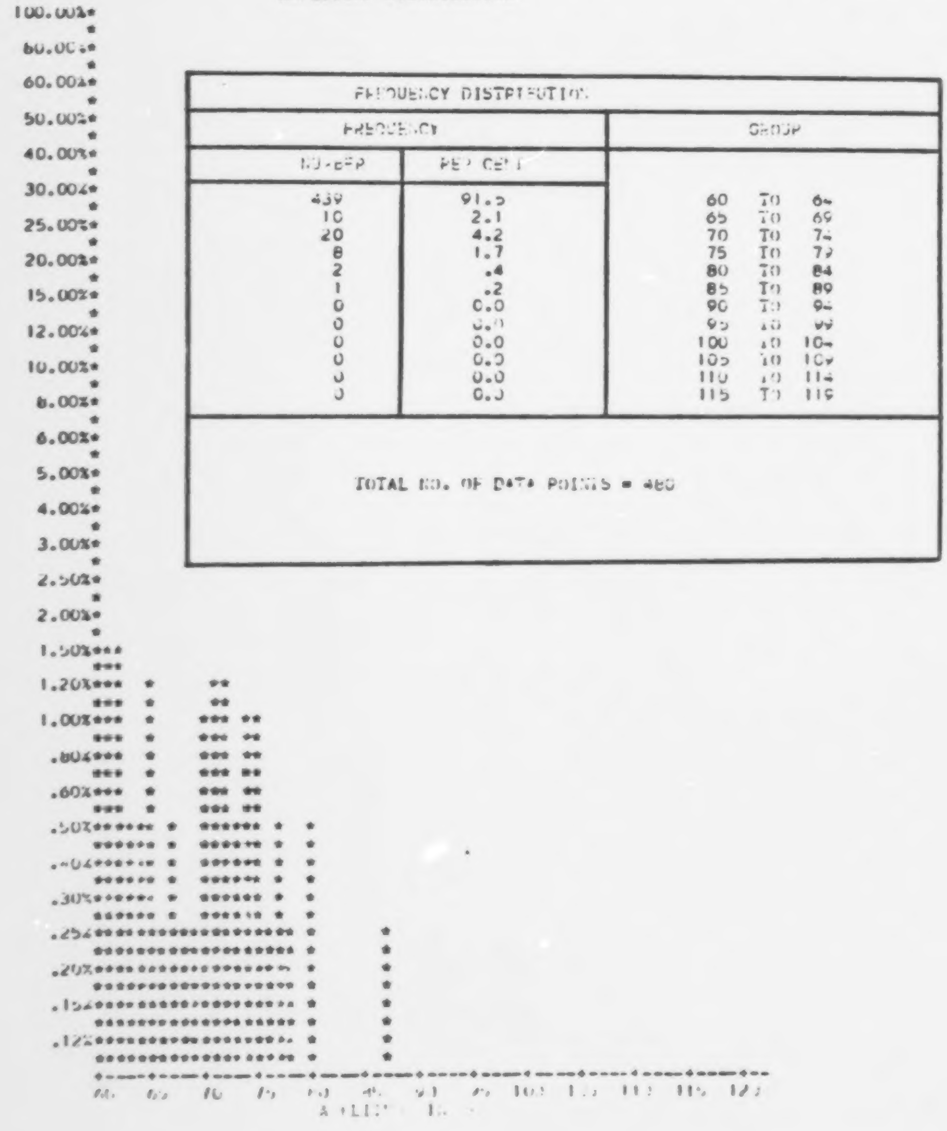
AMPLITUDE DISTRIBUTION

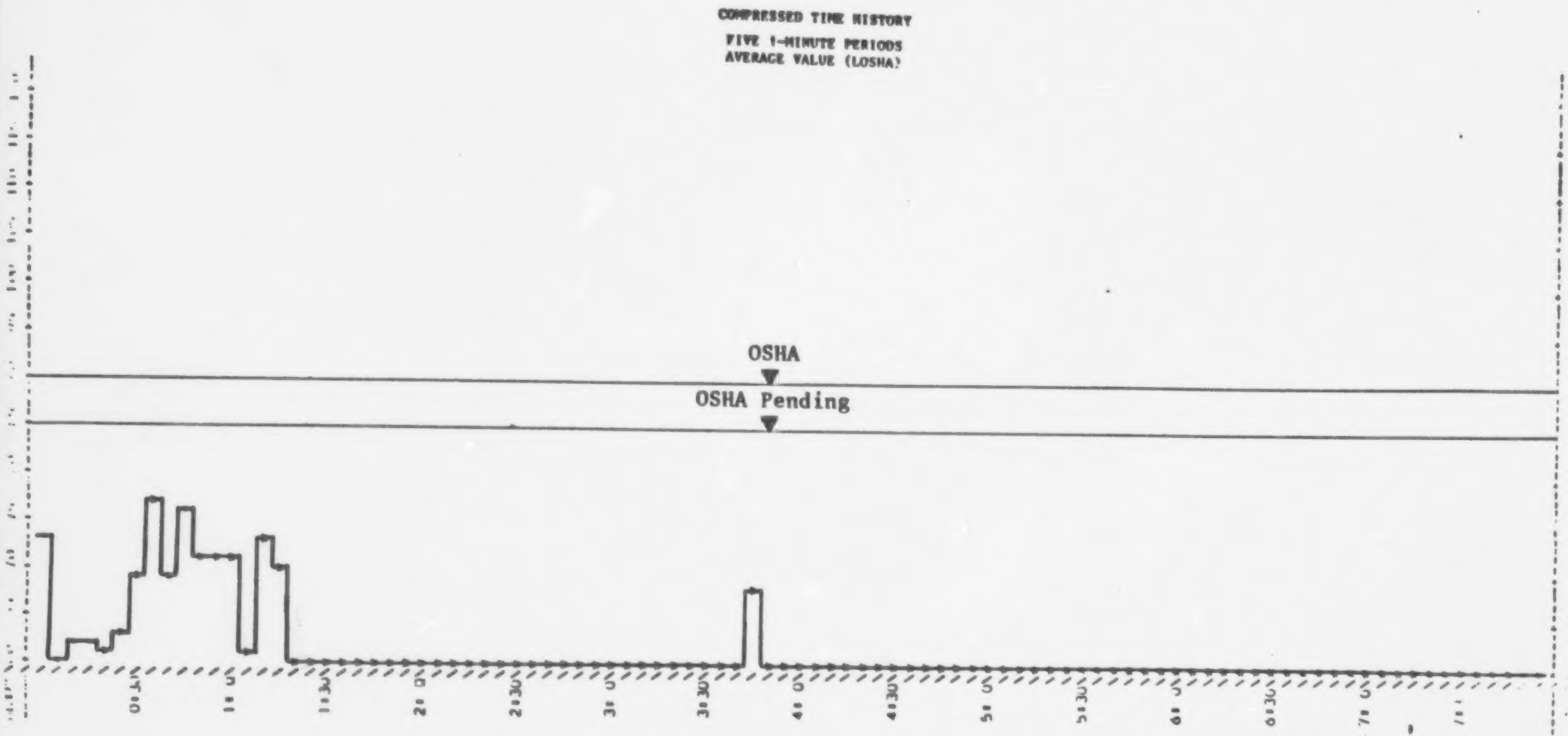


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
439	91.5	60 TO 64
10	2.1	65 TO 69
20	4.2	70 TO 74
8	1.7	75 TO 79
2	.4	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

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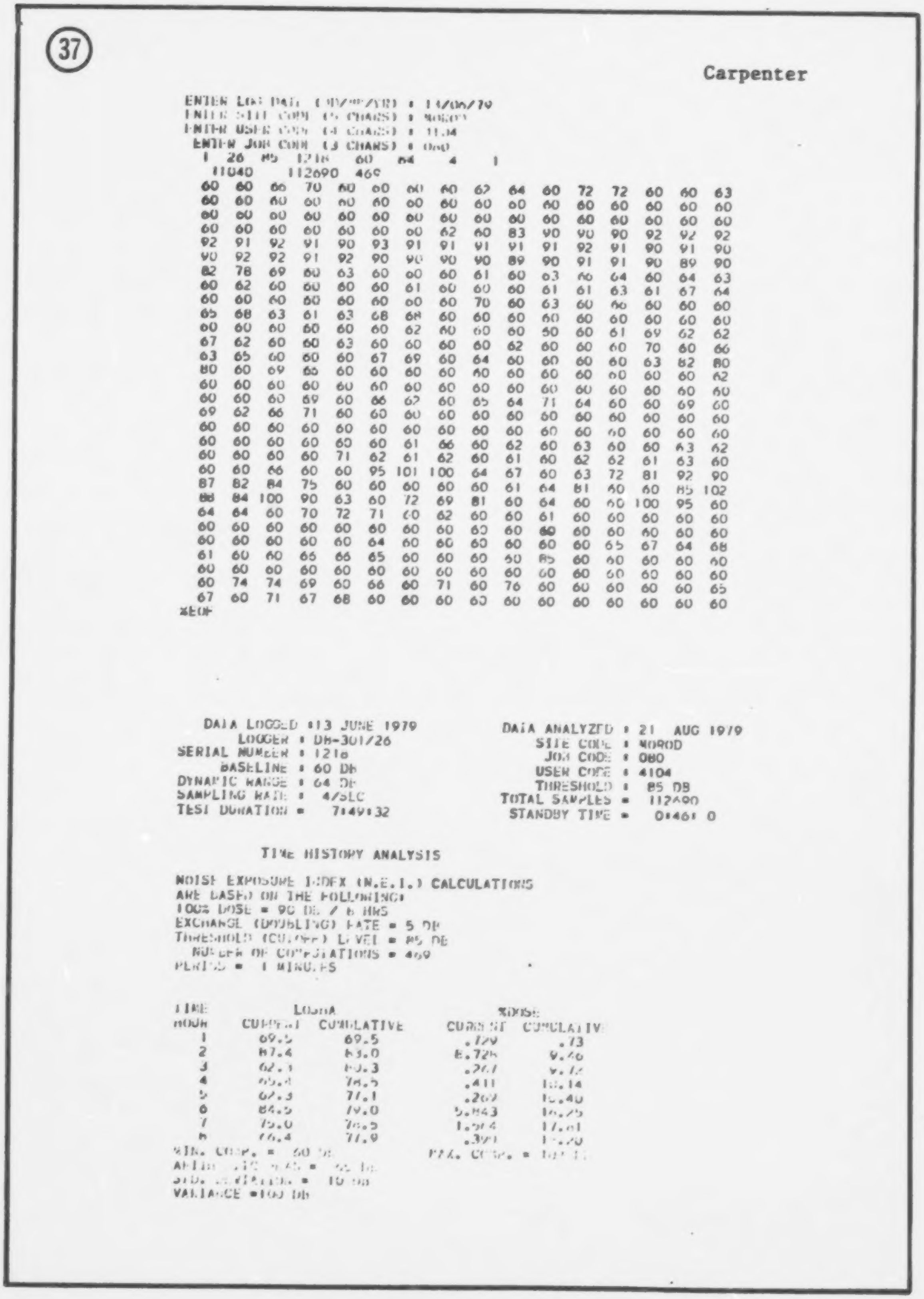

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Carpenter

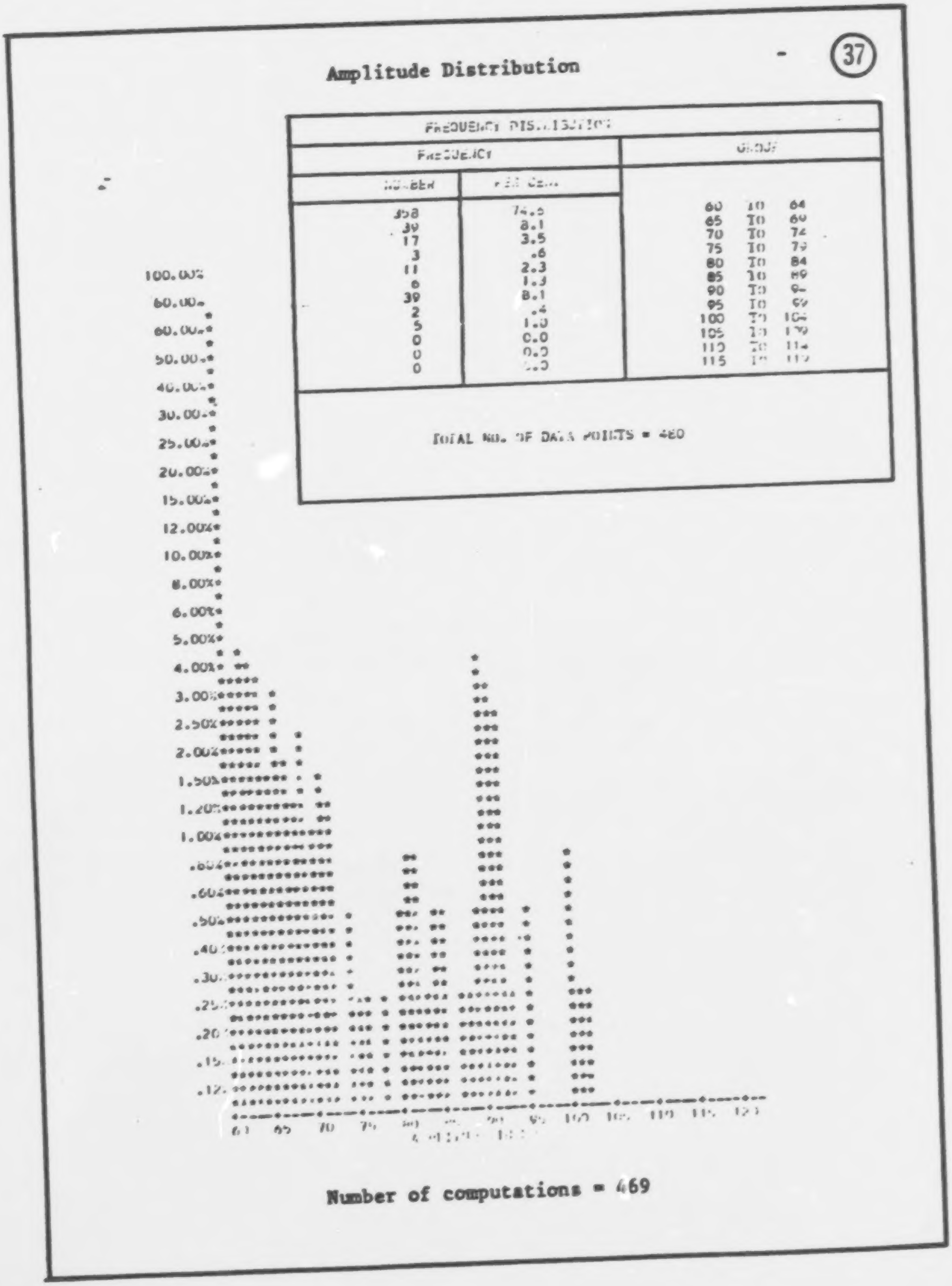
```
ENTER LOG DATE (MO/DY/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : NOROD
ENTER USER CODE (4 CHARS) : 4104
 ENTER JOB CODE (3 CHARS) : 080
  1  26  85  1216   60   64    4    1
   11040     112690  469
  60  60  66  70  60  60  60  60  62  64  60  72  72  60  60  63
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  62  60  83  90  90  90  92  92  92
  92  91  92  91  90  93  91  91  91  91  91  92  91  90  91  90
  90  92  92  91  92  90  90  90  90  89  90  91  91  90  89  90
  82  78  69  60  63  60  60  60  61  60  63  66  64  60  64  63
  60  62  60  60  60  60  61  60  60  60  61  61  63  61  67  64
  60  60  60  60  60  60  60  60  70  60  63  60  66  60  60  60
  65  68  63  61  63  68  68  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  62  60  60  60  50  60  61  69  62  62
  67  62  60  60  63  60  60  60  60  62  60  60  60  70  60  66
  63  65  60  60  60  67  69  60  64  60  60  60  60  63  82  80
  80  60  69  66  60  60  60  60  60  60  60  60  60  60  60  62
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  69  60  66  62  60  65  64  71  64  60  60  69  60
  69  62  66  71  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  61  66  60  62  60  63  60  60  63  62
  60  60  60  60  71  62  61  62  60  61  60  62  62  61  63  60
  60  60  66  60  60  95 101 100  64  67  60  63  72  81  92  90
  87  82  84  75  60  60  60  60  60  61  64  81  60  60  85 102
  88  84 100  90  63  60  72  69  81  60  64  60  60 100  95  60
  64  64  60  70  72  71  60  62  60  60  61  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  64  60  60  60  60  60  60  65  67  64  68
  61  60  60  65  66  65  60  60  60  50  85  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  74  74  69  60  66  60  71  60  76  60  60  60  60  60  65
  67  60  71  67  68  60  60  60  60  60  60  60  60  60  60  60
%EOF


    DATA LOGGED :13 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : NOROD
 SERIAL NUMBER : 1216                            JOB CODE : 080
      BASELINE : 60 DB                          USER CODE : 4104
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  112690
 TEST DURATION =    7:49:32                  STANDBY TIME =   0:46: 0

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 469
PERIOD =  1 MINUTES


TIME           LOUDNA                         %DOSE
HOUR      CURRENT  CUMULATIVE           CURRENT  CUMULATIVE
   1        69.5       69.5               .729        .73
   2        87.4       83.0              8.728       9.46
   3        62.3       80.3               .267       9.72
   4        65.4       78.5               .411      10.14
   5        67.3       77.1               .269      10.40
   6        84.5       79.0              5.843      16.25
   7        75.0       78.5              1.564      17.81
   8        76.4       77.9               .391      18.20
MIN. COMP. =  60 DB                  MAX. COMP. = 102 DB
ARITH. AVG. = [illegible] DB
STD. DEVIATION =  10 DB
VARIANCE =100 DB
```



Amplitude Distribution

37

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
358	74.5	60 TO 64
39	8.1	65 TO 69
17	3.5	70 TO 74
3	.6	75 TO 79
11	2.3	80 TO 84
6	1.3	85 TO 89
39	8.1	90 TO 94
2	.4	95 TO 99
5	1.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 469

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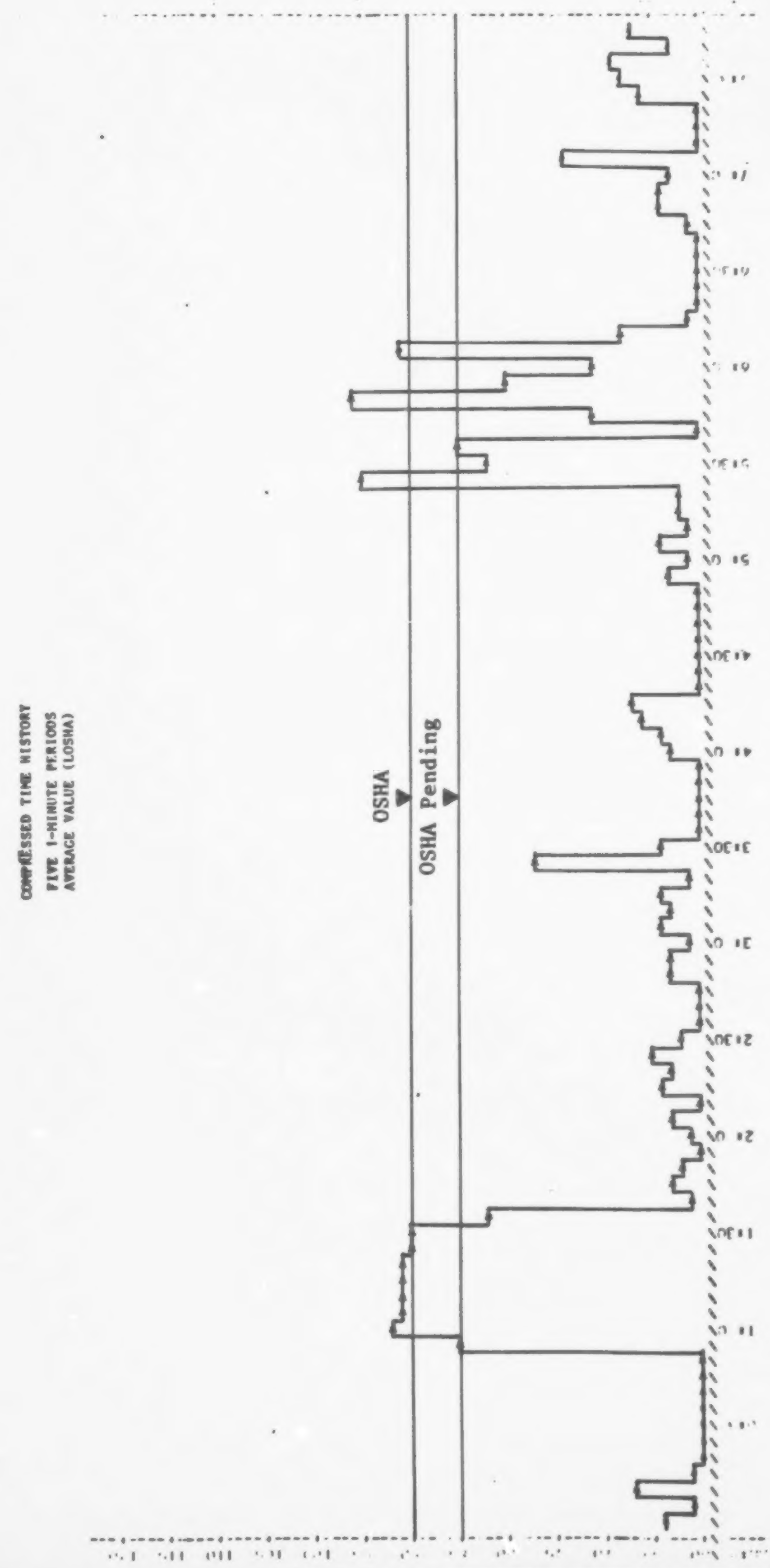
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30

Carpenter ㊳

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  85  1215   60   64   4   1
  4/170      114923  478
 91  64  72  71  60  60  60  61  60  73  99  86  70  60  69  67
 67  69  72  94  98  73  81  86  85  71  88  82  89  64  67  72
 60  60  61  60  60  60  66  61  64  67  60  60  64  62  60  68
 60  60  60  66  65  60  60  60  60  60  60  60  60  60  60  60
 60  60  67  60  60  61  61  61  61  60  60  62  60  60  60  60
 60  82  75  60  60  62  60  60  61  60  60  60  60  63  60  65
 71  66  60  64  61  62  72  66  62  74  72  61  80  78  78  82
 78  73  76  78  76  82  78  77  66  71  60  77  74  76  84  78
 60  60  65  67  60  60  60  60  60  63  60  60  60  60  60  60
 60  60  60  60  60  60  60  76  71  77  62  68  60  60  60  60
 79  60  60  60  68  60  70  69  60  60  60  64  68  60  72  72
 60  60  60  60  60  65  60  60  60  70  60  75  61  60  62  60
 60  60  60  60  60  60  60  65  63  62  60  60  60  60  60  64
 77  79  66  63  85  83  76  72  68  60  60  60  60  60  79  78
 62  69  62  66  69  60  60  60  61  60  60  60  60  60  60  60
 62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 62  65  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  61  60  60  60  64  60  60  60  70  74  72
 60  62  60  60  60  60  60  65  60  65  66  74  79  74  70  68
 60  61  69  63  67  68  62  60  60  66  63  60  60  60  60  60
 62  60  60  62  60  63  60  61  60  61  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  67  60  60  60
 61  60  60  60  60  60  60  60  60  60  60  60  60  62  62  60
 60  60  60  60  60  60  60  60  60  66  62  63  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  66  60  60  60  60  79  66  60  60  60  60  60  60  60  62
 60  62  68  64  66  62  60  60  60  60  60  60  60  70  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 13/06/79

ENTER SITE CODE (5 CHARS) : CARSH
ENTER USER CODE (4 CHARS) : 6802
 ENTER JOB CODE (3 CHARS) : 080


   DATA LOGGED :13 JUNE 1979                 DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : CARSH
 SERIAL NUMBER : 1215                             JOB CODE : 080
      BASELINE : 60 DB                           USER CODE : 6802
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  114923
 TEST DURATION =    7:58:50                   STANDBY TIME =   3:16:32

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS .
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 478
 PERIOD =  1 MINUTES

 TIME           LOSHA                        %DOSE
 HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1        79.3      79.3             2.818      2.82
   2        70.5      76.1              .833      3.65
   3        68.2      74.3              .605      4.25
   4        69.3      73.3              .710      4.96
   5        60.3      72.0              .204      5.17
   6        64.8      71.2              .381      5.55
   7        60.5      70.4              .210      5.76
   8        62.5      67.8              .2[illegible]      6.0[illegible]
 MIN. COMP. =  60 DB                MAX. COMP. =  99 DB
 ARITHMETIC MEAN =  63 DB
 STD. DEVIATION =   6 DB
 VARIANCE = 36 DB
```

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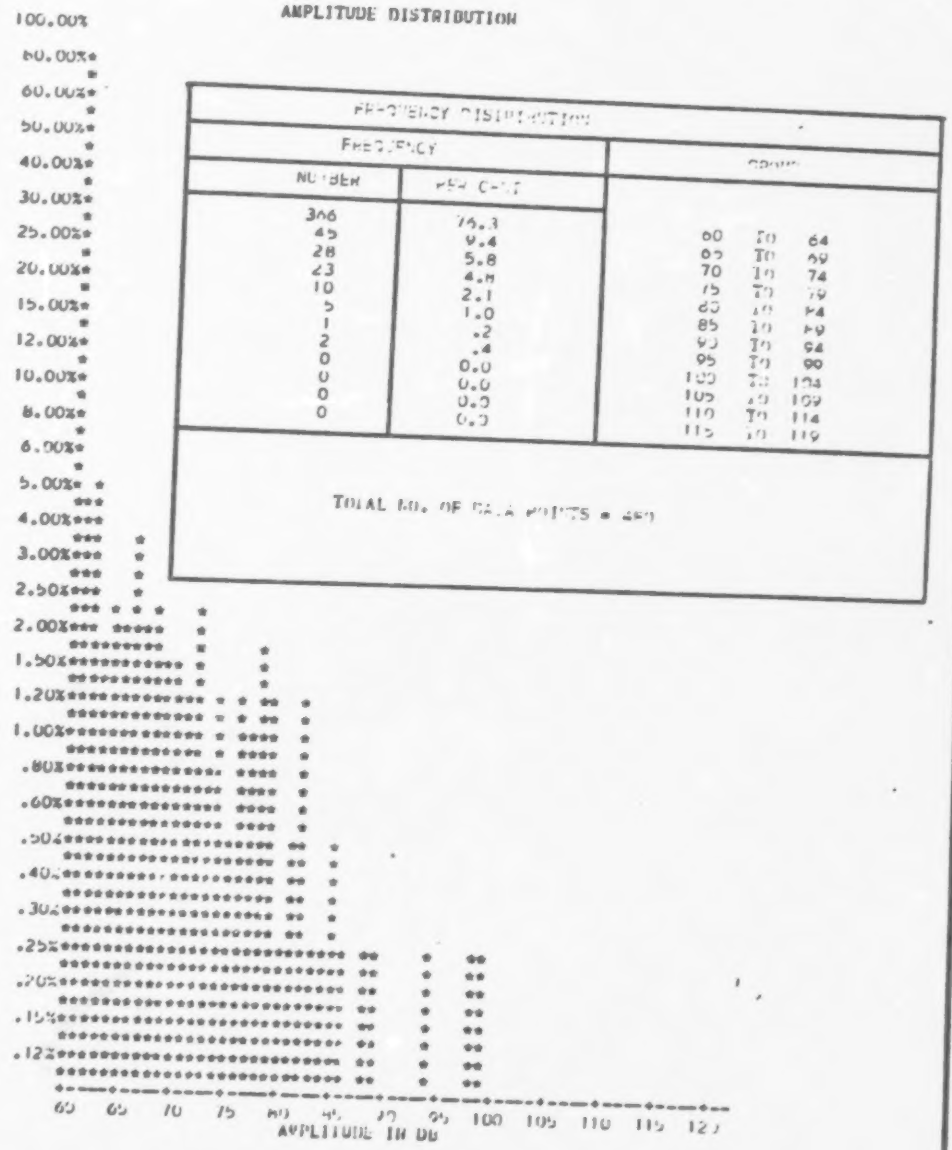
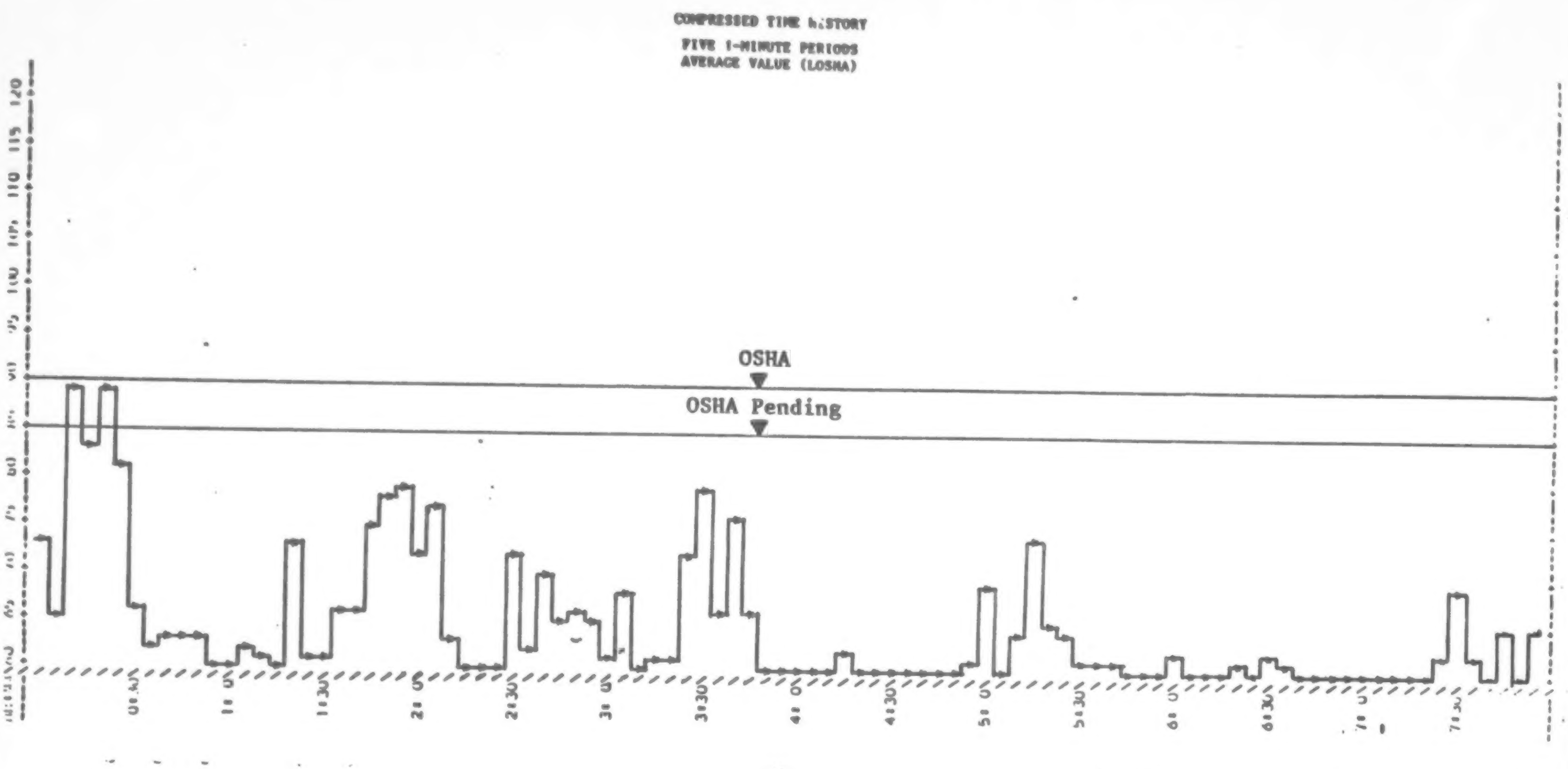


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
366	76.3	60 TO 64
45	9.4	65 TO 69
28	5.8	70 TO 74
23	4.8	75 TO 79
10	2.1	80 TO 84
5	1.0	85 TO 89
1	.2	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 478


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
120
115
110
105
100
95
90
85
80
75
70
65
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

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(39)

Carpenter

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
 1  20  80  1214    60   64    4    1
  89093     115200   480
 75  64  69  60  60  60  61  62  60  60  61  60  61  61  60  69
 60  63  60  60  84  94  95  85  91  [illegible]  86  92  86  86  89  91
 92  75  66  66  62  70  80  66  70  65  62  63  60  62  63  68
 62  62  63  62  62  60  61  66  60  60  73  64  62  60  65  65
 71  72  71  72  60  66  70  68  76  70  72  71  69  70  61  60
 60  72  73  71  71  68  71  67  73  71  75  66  67  61  63  76
 77  63  79  77  74  73  74  76  75  67  74  77  77  85  76  75
 78  72  77  84 102 103  69  74  83  83  83  78  77  84  88  73
 66  72  60  60  63  64  68  60  63  61  61  65  70  66  70  78
 73  82  83  84  82  85  92  84  85  83  81  79  77  81  89  85
 79  84  73  77  80  75  77  69  80  74  76  79  76  62  64  82
 80  77  75  62  70  75  76  77  67  73  65  79  65  69  69  69
 72  60  75  61  60  60  65  85 100  96  80  84  86  87  89  92
 81  63  82  84  77  80  68  86  85  85  86  69  81  74  83  82
 86  66  89  80  87  84  66  83  84  90  87  72  70  61  80  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  64  62  60  60  60  60  60  60  60  60  60  60
 60  60  73  74  63  60  60  61  79  78  80  72  87  80  87  87
 88  89  88  88  84  83  70  76  85  86  84  85  84  81  84  80
 82  63  74  64  76  79  69  60  60  60  70  60  73  60  60  60
 60  60  60  60  69  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  76  65  60  78  72  60  60  60  61  60
 60  60  60  60  60  60  60  60  60  60  60  60  83  86  85  87
 66  73  60  60  60  60  61  60  60  60  60  60  60  61  60  60
 79  81  81  83  82  78  80  67  60  78  83  83  79  75  60  60
 62  60  60  60  60  60  60  60  60  60  60  60  60  66  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  62  60  60  60  60  61  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  72  70  64  76  83  62  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 04/07/79

ENTER SITE CODE (5 CHARS) : CARPS

ENTER USER CODE (4 CHARS) : 0641

 ENTER JOB CODE (3 CHARS) : 060



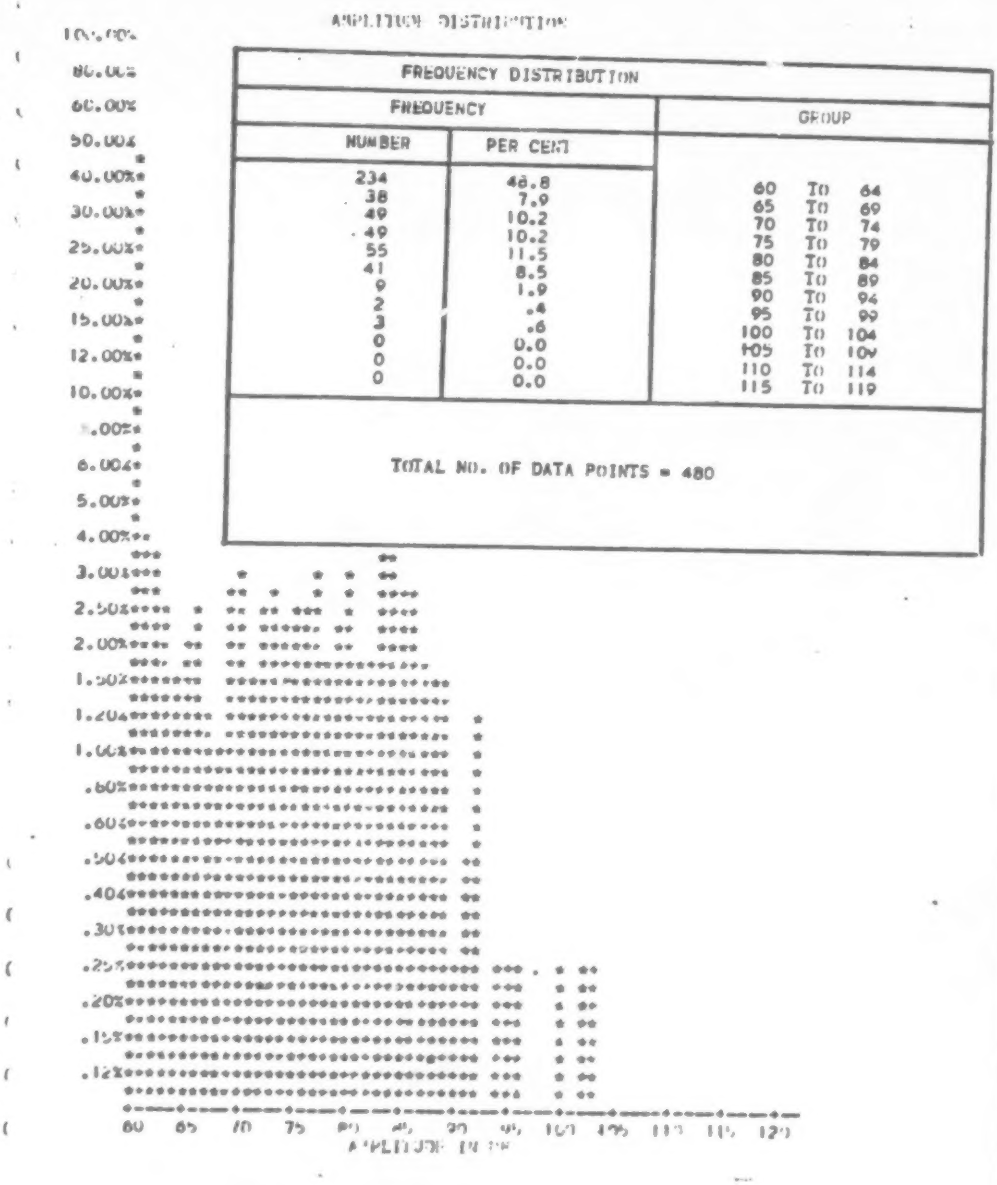

    DATA LOGGED : 4 JULY 1979             DATA ANALYZED : 29  AUG 1979
          LOGGER : DB-301/26                   SITE CODE : CARPS
  SERIAL NUMBER : 1214                         JOB CODE : 060
        BASELINE : 60 DB                      USER CODE : 0641
  DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                STANDBY TIME =   6:11:13

           TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOS  = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES


  TIME          LOSHA                          %DOSE
  HOUR      CURRENT  CUMULATIVE         CURRENT   CUMULATIV
     1        80.1       80.1             3.173       3.17
     2        81.2       80.7             4.715       6.8?
     3        79.4       80.3             2.459       9.75
     4        83.7       81.3             5.25?      15.0?
     5        77.1       80.6             2.066      17.0?
     6        70.4       77.7              .830      17.9?
     7        74.2       79.1             1.401      19.3?
     8        64.7       75.3              .326      19.6?
  MIN. COMP. =  60 DB                 MAX. COMP. = [illegible]
  ARITHMETIC MEAN =  69 DB
  STD. DEVIATION =  10 DB
  VARIANCE =[illegible]
```

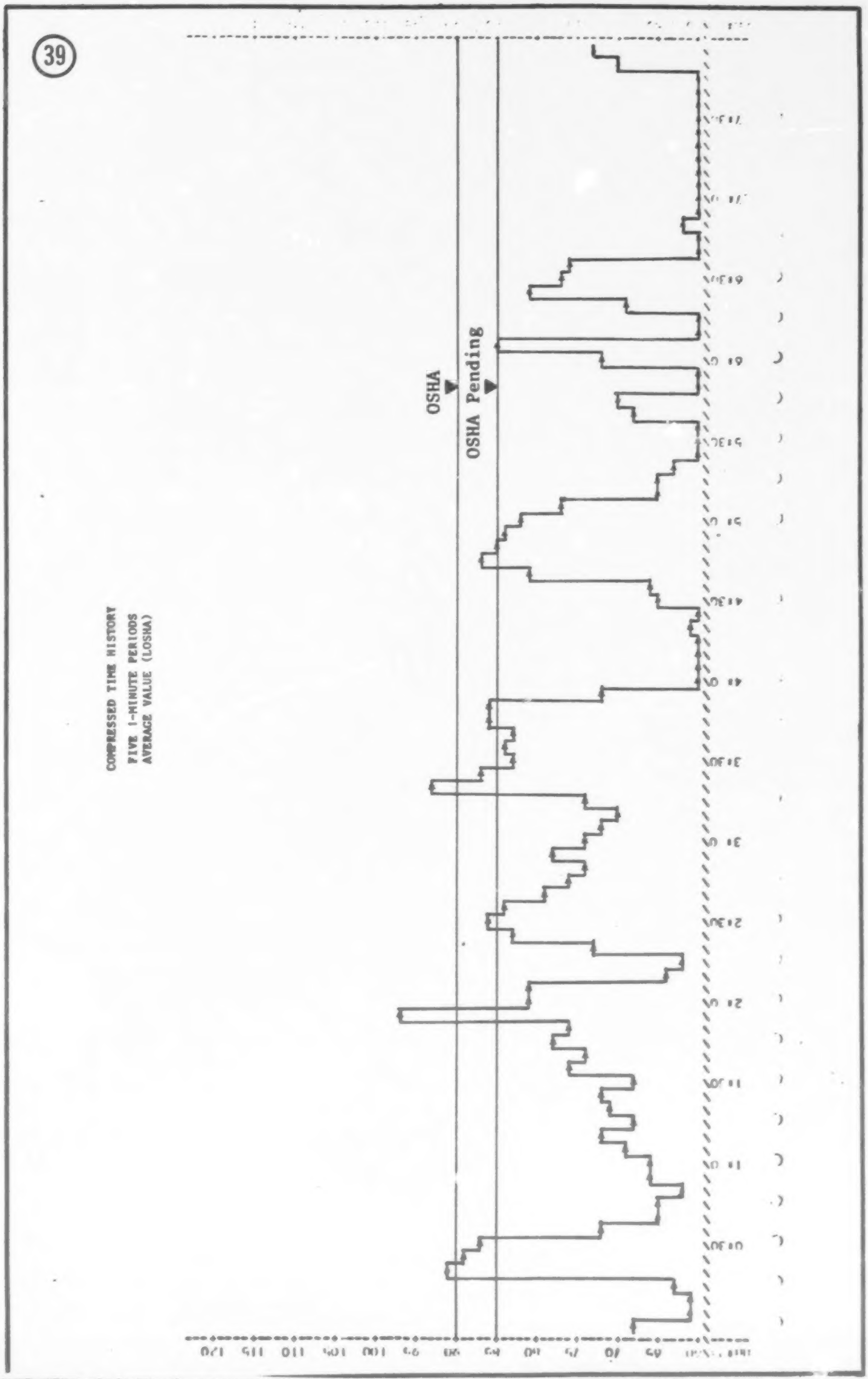
(39)



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
234	48.8	60 TO 64
38	7.9	65 TO 69
49	10.2	70 TO 74
49	10.2	75 TO 79
55	11.5	80 TO 84
41	8.5	85 TO 89
9	1.9	90 TO 94
2	.4	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


39
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
6:30
7:00
7:30

Carpenter ㊵

```
PLACE TAPE IN READER [illegible] TYPE A [illegible] AND A [illegible]

  1  26  80  1221   60   64   4   1
   61039    112218   467
  65  60  63  61  61  61  62  64  62  60  60  60  60  60  60  60
  60  65  69  72  63  60  63  67  67  70  73  73  60  60  60  60
  61  60  61  60  60  66  65  69  71  69  60  62  73  70  73  65
  74  65  68  71  77  65  67  75  62  60  60  66  60  63  60  74
  78  70  61  60  60  61  60  72  72  62  60  62  65  65  65  60
  60  63  60  60  68  62  60  68  75  76  80  71  60  60  60  61
  61  60  60  60  60  60  60  60  60  60  60  60  62  60  60  62
  60  60  61  65  61  60  60  60  60  62  65  60  60  60  61  63
  60  60  64  63  61  60  62  60  60  64  65  66  74  64  64  63
  71  60  62  63  67  79  62  76  73  72  76  74  76  73  79  80
  60  63  71  63  60  60  71  72  61  60  60  66  64  63  64  75
  65  61  64  60  60  60  60  60  60  60  60  61  66  63  60  60
  60  61  60  60  61  60  62  61  60  62  63  62  62  65  60  60
  60  60  65  61  60  60  60  60  60  60  66  66  63  60  64  61
  61  61  60  60  60  60  60  60  64  60  66  70  68  60  64  65
  63  60  60  60  60  60  61  60  61  60  60  60  60  60  60  60
  60  60  60  60  68  68  62  64  60  62  64  62  61  67  74  70
  76  80  79  79  79  80  80  79  75  64  72  80  61  60  60  74
  67  65  76  60  60  60  60  60  60  60  63  61  60  60  60  60
  60  60  60  60  60  60  60  61  60  60  89  93  77  62  74  63
  60  61  60  61  60  62  66  90  89  77  77  86  92  65  61  67
  60  76  72  74  69  62  69  82  75  75  62  61  64  74  64  65
  66  62  82  71  84  60  61  60  78  79  69  80  61  64  60  80
  60  63  76  77  60  91  89  72  64  60  67  70  61  64  68  60
  60  60  60  60  60  60  60  60  61  60  67  60  70  64  60  71
  67  62  67  73  70  76  66  74  68  79  76  61  62  75  66  79
  62  70  75  75  82  60  60  61  68  67  76  84  83  83  75  84
  60  61  60  60  87  79  75  74  61  60  73  79  67  80  66  60
  60  60  65  60  60  60  65  60  60  60  62  61  62  60  60  60
  63  67  68  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : CARPS
ENTER USER CODE (4 CHARS) : 643[illegible]
 ENTER JOB CODE (3 CHARS) : 060


    DATA LOGGED : 4 JULY 1979              DATA ANALYZED : 28  AUG 1979
        LOGGER : DL-301/26                       SITE CODE : CARPS
  SERIAL NUMBER : 1221                            JOB CODE : 060
       BASELINE : 60 DB                          USER CODE : 643[illegible]
  DYNAMIC RANGE : 64 DB                          THRESHOLD : [illegible]
  SAMPLING RATE : 4/SEC                      TOTAL SAMPLES = 11221[illegible]
  TEST DURATION =   7:47:34                   STANDBY TIME =   [illegible]

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ALL BASED ON THE FOLLOWING:
 [illegible]
 BACKGROUND (BASELINE) LEVEL = [illegible] DB
 THRESHOLD (CUTOFF) LEVEL = [illegible] DB
   NUMBER OF OBSERVATIONS = 467
 PERIOD =  1 MINUTES

 TIME          LOSHA                      N.E.I.
 HOUR   CURRENT  CUMULATIVE        CURRENT  CUMULATIV
   1    [illegible]    [illegible].6        .4[illegible]     .49
   2    [illegible]    [illegible]          .4[illegible]     .[illegible]3
   3      70.4      67.9            .[illegible]     1.7[illegible]
   4      62.5      66.9            .27[illegible]    2.02
   5    [illegible]    [illegible]          .7[illegible]     [illegible]
   6      77.[illegible]    7[illegible]          3.3[illegible]     [illegible]
   7      7[illegible]      71.1            1.4[illegible]     [illegible]
   8      74.1      71.5            1.077     7.[illegible]
 [illegible]
 [illegible]
 [illegible]
 [illegible]
```

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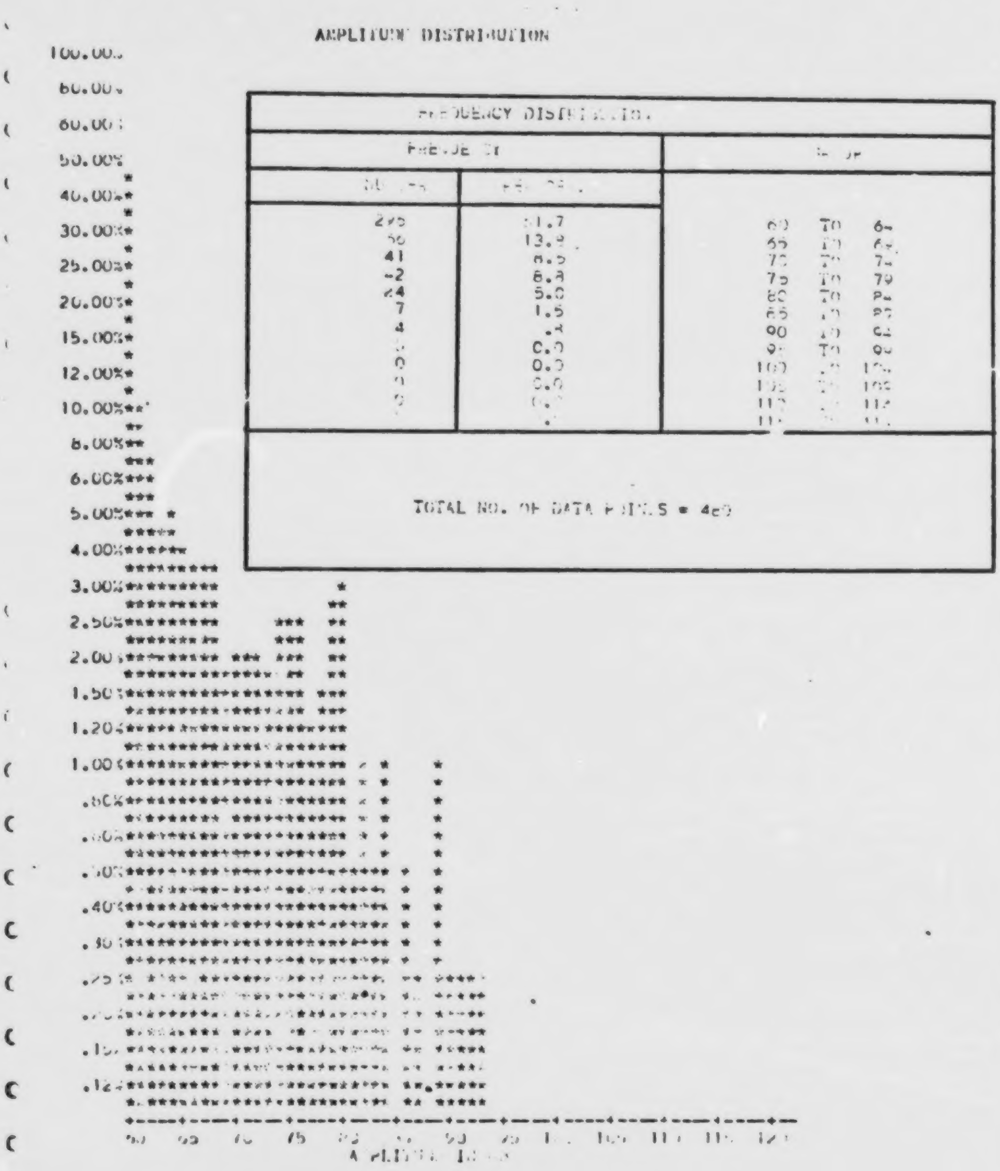
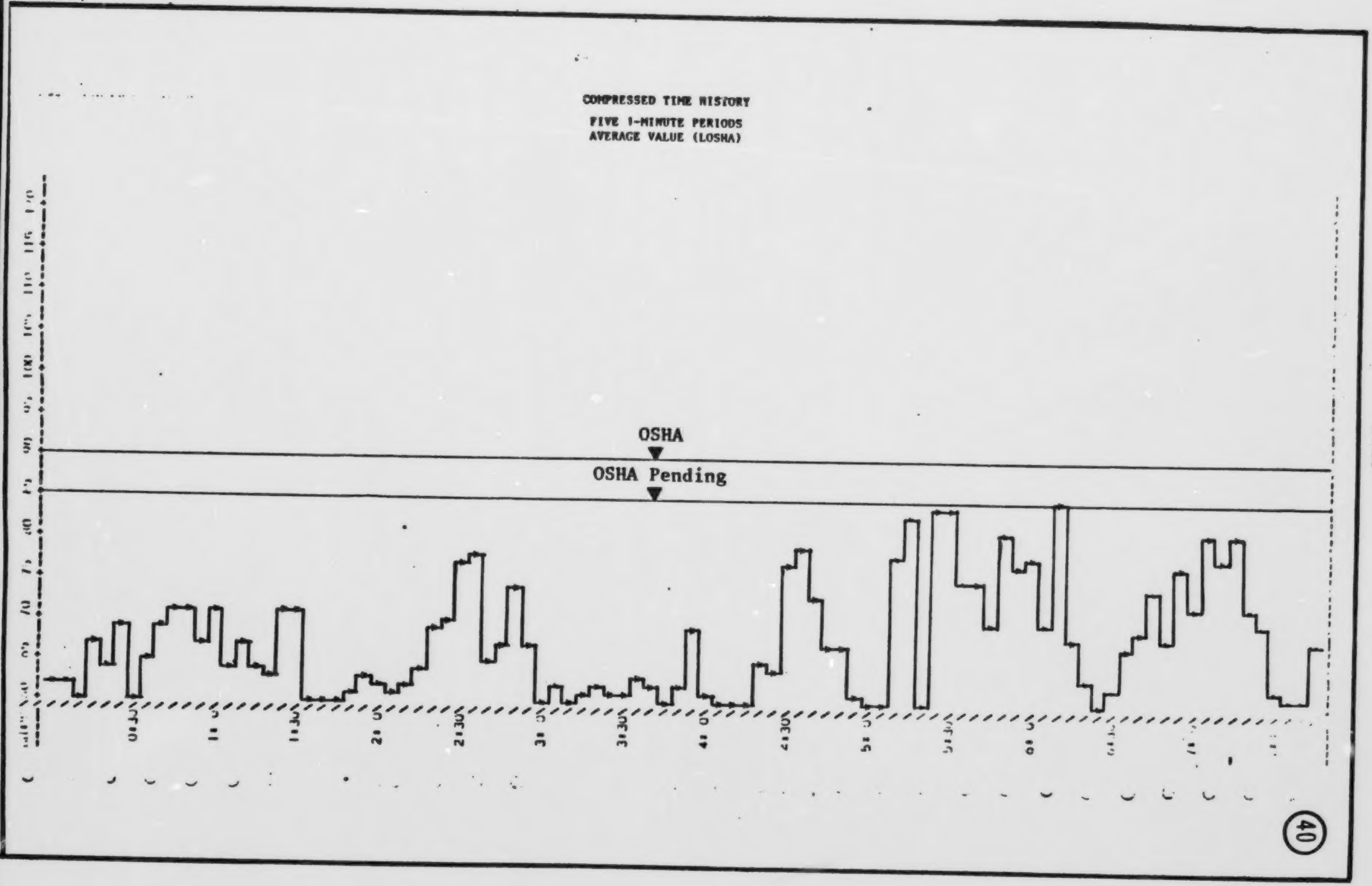
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
COUNTS	PERCENT	
295	61.7	60 TO 64
56	13.9	65 TO 69
41	8.5	70 TO 74
42	8.8	75 TO 79
24	5.0	80 TO 84
7	1.5	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
[illegible]	[illegible]	115 TO 119

TOTAL NO. OF DATA POINTS = 469

Number of computations = 467


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
55
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
40

㊶

Carpenter

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*

  1  26  80  1213   60   64    4    1
  60533     115200  480
  62  60  60  66  60  66  72  66  60  62  60  67  68  60  60  60
  61  60  61  61  60  60  60  62  64  64  60  60  78  74  60  60
  60  60  60  60  60  60  60  61  67  60  60  60  62  60  60  60
  60  60  60  60  60  63  71  76  72  73  62  60  60  60  60  69
  60  62  60  62  60  61  60  81  73  60  60  66  61  73  60  64
  72  72  64  60  68  68  60  63  62  60  70  76  81  82  84  75
  67  60  64  67  60  60  60  60  60  72  66  60  60  64  66  72
  75  75  80  82  76  76  72  74  60  63  60  65  62  67  62  67
  64  62  61  65  65  71  61  71  62  71  60  66  68  75  69  60
  77  69  60  65  70  75  65  73  69  66  73  72  74  72  63  65
  63  77  66  67  62  60  60  60  60  60  60  61  60  60  63  60
  60  65  73  63  70  64  60  60  61  68  64  61  75  67  64  60
  60  62  63  60  68  64  61  71  63  60  60  71  68  67  72  60
  68  70  68  70  60  60  70  80  73  74  66  63  60  60  70  73
  60  60  62  65  60  64  69  66  75  67  63  75  68  63  60  60
  60  60  60  64  71  60  60  60  60  60  60  60  60  60  60  61
  60  60  60  60  60  60  62  67  66  71  76  65  60  65  64  60
  60  63  78  69  74  65  67  62  72  60  64  66  74  60  65  60
  60  63  70  79  81  81  83  79  65  67  61  65  60  63  62  60
  76  62  60  60  60  60  60  60  72  66  67  69  79  84  79  80
  78  79  70  65  67  72  60  60  60  60  62  92  88  78  75  92
  62  62  60  76  75  77  64  76  69  64  75  81  80  71  69  61
  60  74  74  86  77  72  86  60  85  79  73  65  79  78  76  82
  82  61  69  80  73  64  82  63  66  89  81  71  71  60  71  70
  60  65  69  60  60  60  60  60  60  60  60  60  60  60  62  60
  66  60  76  78  71  75  79  82  79  79  73  78  74  73  76  66
  67  80  67  81  81  62  77  65  71  60  63  67  72  78  80  85
  81  83  77  85  76  61  60  81  84  71  60  63  61  60  77  74
  69  83  80  82  82  70  74  73  74  78  72  60  60  63  75  61
  76  75  69  66  62  60  70  71  74  78  77  64  60  62  64  61
%EOF


ENTER LOG DATE (DD/MM/YR) : 04/07/79

ENTER SITE CODE (5 CHARS) : CARPS
ENTER USER CODE (4 CHARS) : 6294

 ENTER JOB CODE (3 CHARS) : 094



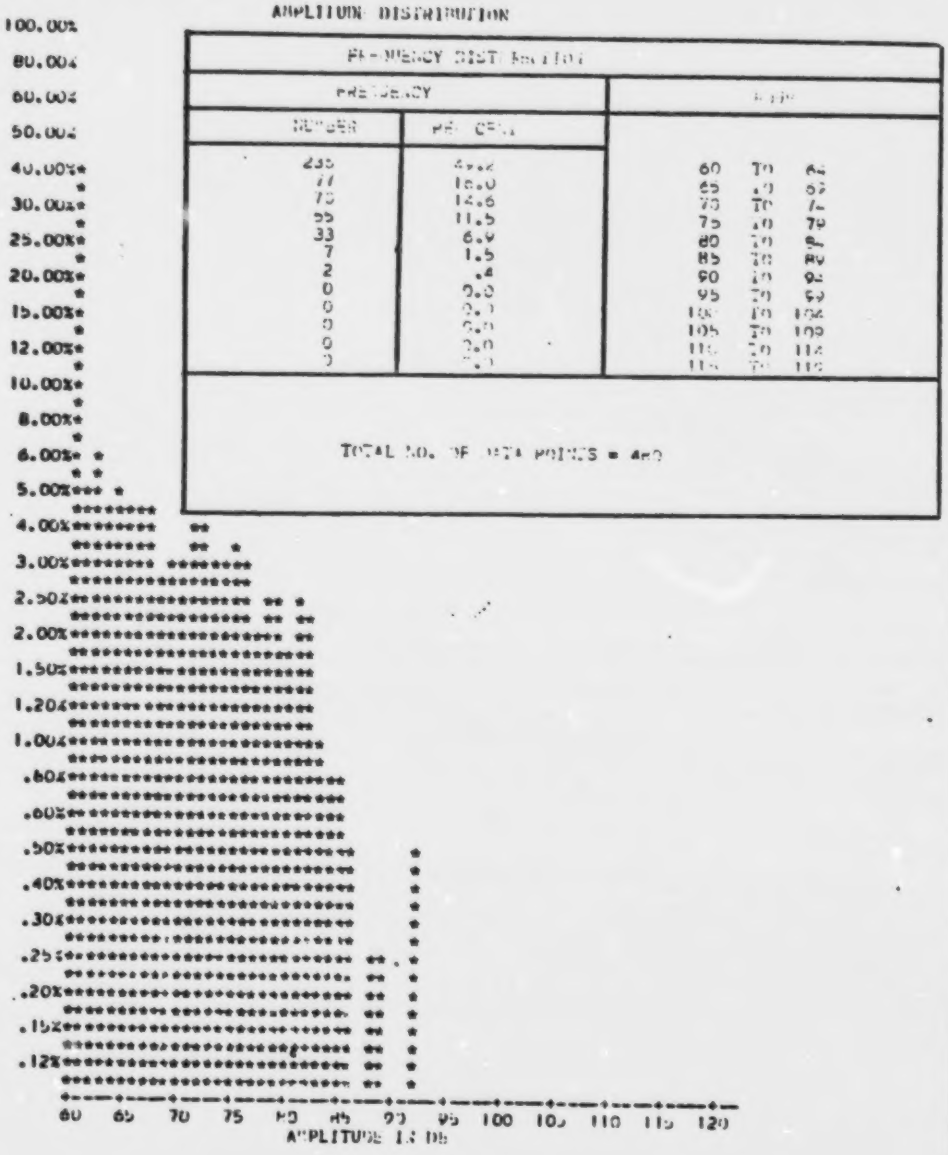
   DATA LOGGED : 4 JULY 1979          DATA ANALYZED : 26  AUG 1979
        LOGGER : DS-301/26                SITE CODE : CARPS
SERIAL NUMBER : 1213                       JOB CODE : 094
     BASELINE : 60 DB                     USER CODE : 6294
DYNAMIC RANGE : 64 DB                     THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC             TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0            STANDBY TIME =   4:12:13

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                    %DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1       64.7      64.7           .377        .38
   2       71.1      68.6           .916       1.29
   3       67.4      68.3           .547       1.84
   4       66.6      67.9           .502       2.34
   5       69.8      68.3           .757       3.10
   6       76.0      70.5          [illegible] 5.10
   7       75.0      71.[illegible] 1.5[illegible] [illegible]
   8       75.1      [illegible]    1.5[illegible] [illegible]
MIN. [illegible] =  60 DB         MAX. [illegible] =  92 [illegible]
[illegible] =  67 DB
[illegible]
[illegible]
```

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PER CENT	
235	[illegible]	60 TO 64
77	16.0	65 TO 69
70	14.6	70 TO 74
55	11.5	75 TO 79
33	6.9	80 TO 84
7	1.5	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

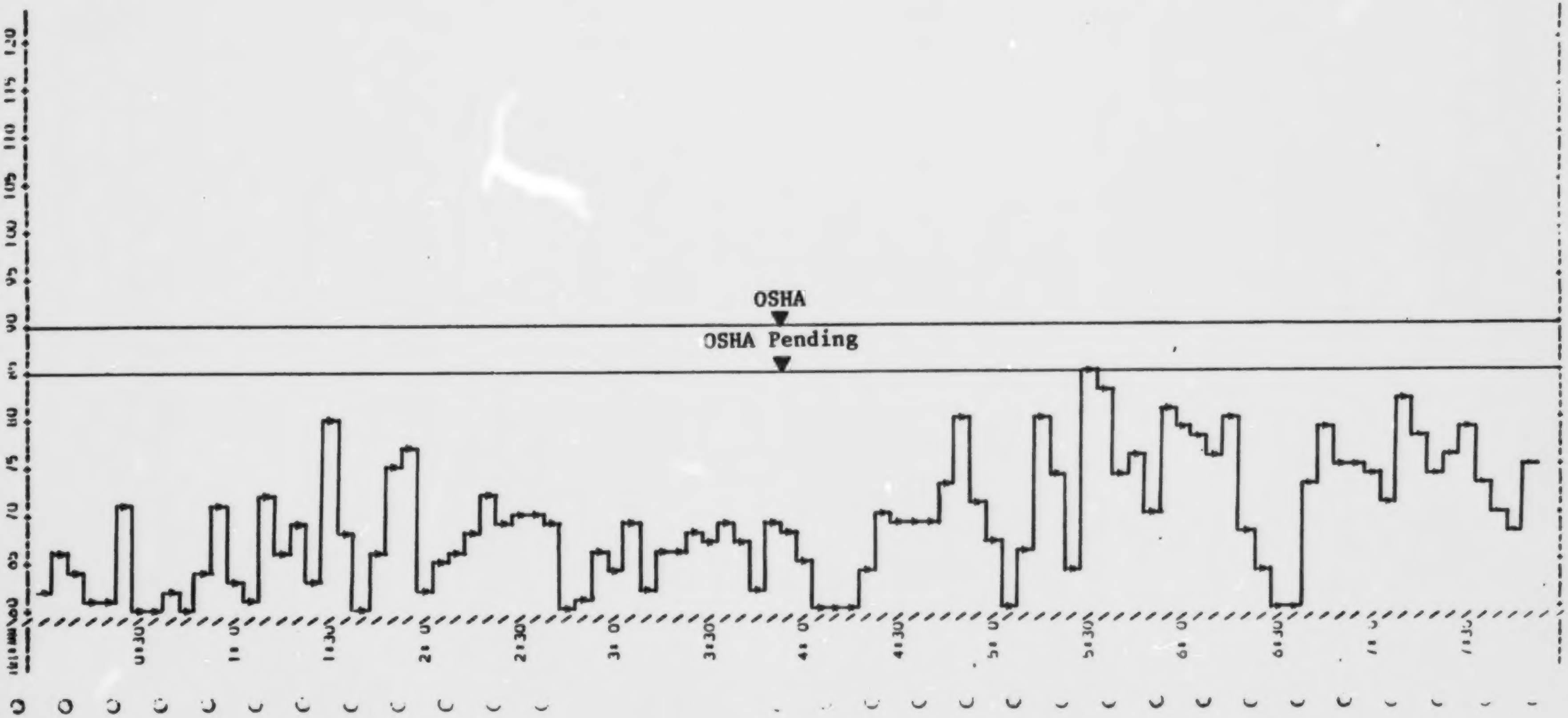
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

㊶

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Carpenter ㊷

```
PLACE TAPE IN READER THEN TYPE A <SPACE> AND A <RETURN>
 1   26  60  1216   60   64    4    1
 6.013     115200  4.80
72  69  60  60  62  60  67  66  71  70  75  82  82  74  64  60
60  60  61  61  60  60  71  73  60  60  60  61  60  62  61  70
66  76  76  60  60  60  60  60  60  60  60  62  60  60  60  60
60  60  60  60  60  60  60  60  60  60  64  60  60  60  60  60
60  60  60  60  60  60  60  60  60  60  60  60  60  60  61  73
73  68  69  75  75  60  60  60  64  60  60  62  66  71  66  60
67  65  60  68  60  60  60  60  60  60  60  60  60  60  63  60
60  60  60  60  60  60  60  60  60  60  60  62  81  81  81  81
61  81  81  82  83  83  83  82  81  81  82  81  83  84  85  85
85  85  85  85  84  84  85  85  84  84  85  86  85  85  85  86
85  85  85  84  85  85  85  85  85  85  85  85  85  85  85  85
85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
85  85  85  85  85  85  85  85  85  85  85  85  85  85  84  85
85  85  84  85  85  84  85  85  85  85  85  85  85  85  85  85
85  85  85  85  85  85  85  84  85  85  85  85  85  83  85  85
85  85  85  85  85  84  83  83  83  83  81  81  81  81  81  81
81  81  82  82  81  82  82  81  81  81  81  82  81  83  84  84
84  84  84  85  85  85  85  85  85  86  86  86  86  87  86  85
85  85  85  85  86  86  86  84  84  84  83  85  85  84  84  84
84  84  83  84  84  85  85  84  84  85  84  86  84  82  82  82
82  82  83  83  83  82  82  82  82  83  83  83  83  83  82  82
82  82  83  83  82  83  83  82  82  83  84  85  84  84  85  84
85  84  83  84  84  84  84  85  85  85  84  82  82  85  83  85
82  82  82  82  82  82  82  82  82  83  82  82  81  82  82  82
82  83  82  82  82  82  82  82  82  82  82  82  82  81  82  85
84  84  84  85  85  84  83  85  84  85  86  86  84  85  85  85
85  84  84  84  83  84  82  82  82  82  82  82  83  82  83  83
82  82  83  84  85  85  85  85  85  85  85  85  85  85  85  85
%EOF


ENTER LOG DATE (MM/DD/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 7156
 ENTER JOB CODE (3 CHARS) : 060



  DATA LOGGED : 4 JULY 1979              DATA ANALYZED : 25  AUG 1979
       LOGGER : DS-301/26                    SITE CODE : MILL+
SERIAL NUMBER : 1216                          JOB CODE : 060
     BASELINE : 40 DB                        USER CODE : 7156
DYNAMIC RANGE : 64 DB                        THRESHOLD : 80 DB
SAMPLING RATE : 4/SEC                    TOTAL SAMPLES =  115200
TEST DURATION =    8 00 0                 STANDBY TIME =   4112123

             TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                    DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT   CUMULATIVE
   1      67.7       67.7          .557        .7
   2      63.9       66.0          .333        .90
   3      [illegible]       [illegible]          [illegible]        6.11
   4      [illegible]       [illegible]          [illegible]        [illegible]
   5      [illegible]       [illegible]          [illegible]        [illegible]
   6      [illegible]       [illegible]          [illegible]        [illegible]
   7      [illegible]       81.6          [illegible]        [illegible].12
   8      [illegible]       [illegible]          [illegible]        [illegible]
[illegible]
[illegible]
[illegible]
VARIANCE [illegible]
```

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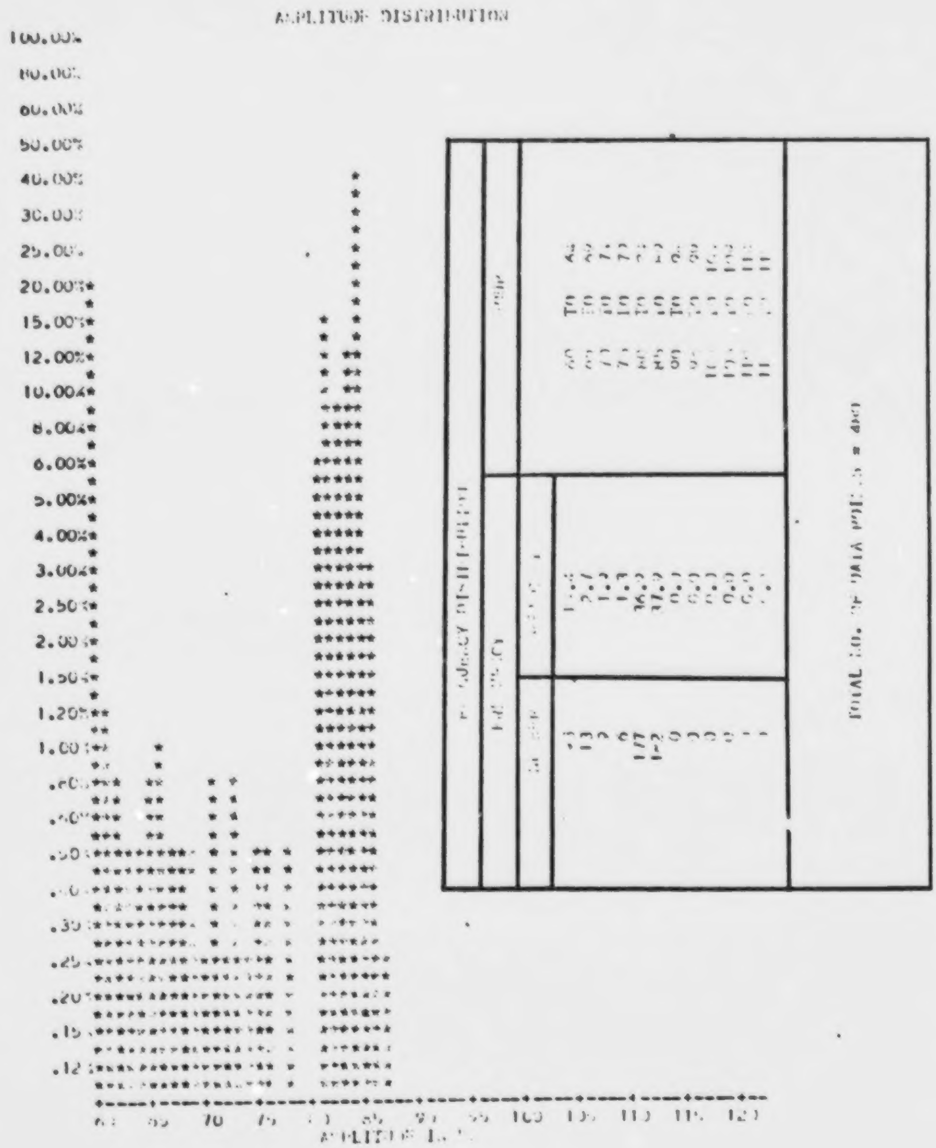
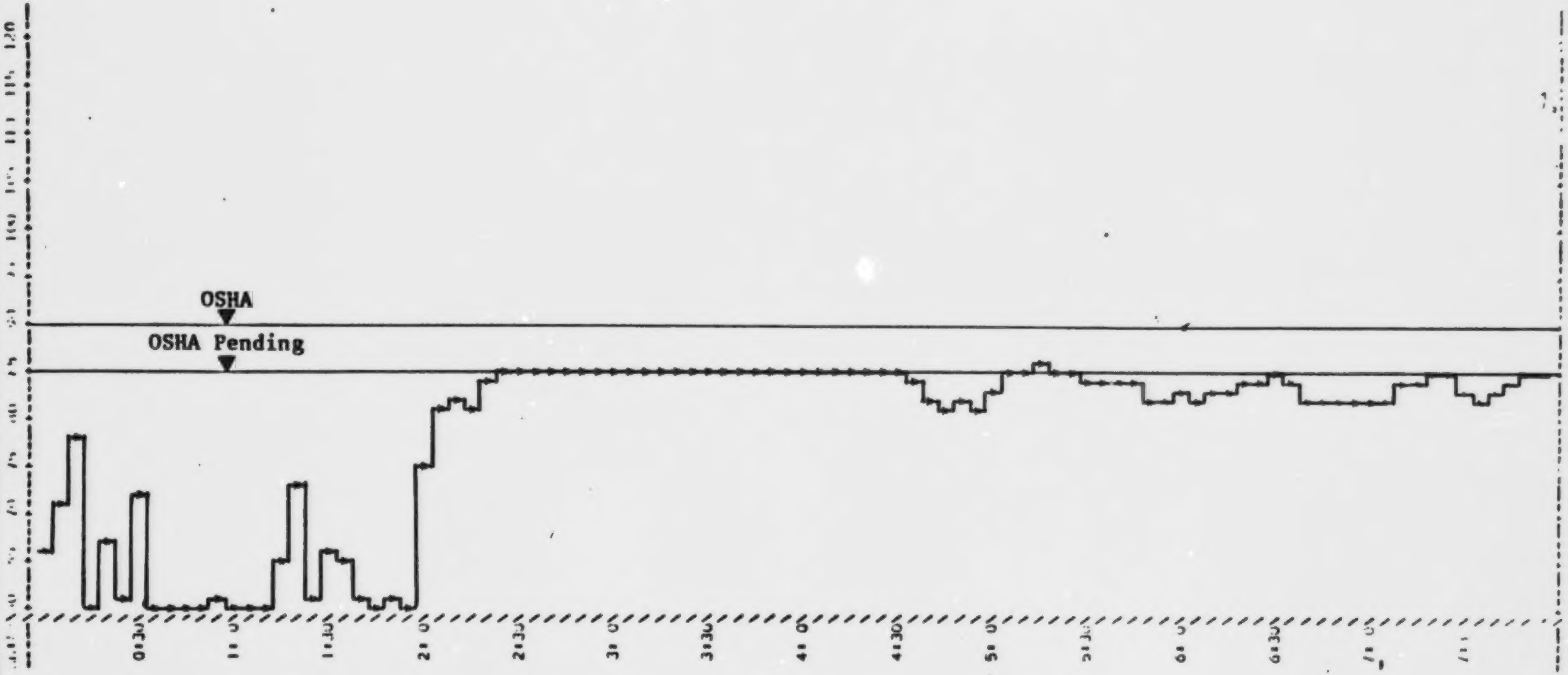


FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
93	19.4	60 TO 64
13	2.7	65 TO 69
9	1.9	70 TO 74
6	1.3	75 TO 79
177	36.9	80 TO 84
182	37.9	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	[illegible]	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(43)

Carpenter

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
  1  26  60  1220   60   64    4    1
   70965     115200  4.0
   64  60  60  60  60  60  60  60  60  61  60  66  76  60  60  60
   73  75  80  81  75  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  62  60  60  60  60  60  64  61  63  69  61  66
   61  60  60  60  61  60  60  60  60  61  60  60  60  73  60  60
   60  60  60  61  60  63  70  66  68  69  60  60  60  65  62  63
   60  71  68  62  61  60  62  60  60  72  64  65  60  60  63  60
   60  60  60  70  67  65  69  73  75  75  75  74  71  66  60  81
   60  65  60  66  61  61  64  60  60  62  60  60  60  60  63  63
   62  61  65  61  62  67  62  70  60  60  62  77  67  76  74  69
   67  62  61  63  61  62  61  75  62  62  61  60  60  60  60  60
   64  60  60  60  60  60  61  62  76  61  63  62  60  60  60  60
   60  60  66  60  60  60  61  60  60  60  60  60  60  60  60  60
   61  74  69  62  67  60  66  60  60  60  60  60  67  60  76  76
   65  68  60  60  72  76  60  60  62  65  61  60  63  60  60  75
   74  60  65  68  60  60  67  76  70  60  60  60  60  60  60  75
   76  63  60  74  74  66  64  60  78  71  60  66  78  61  78  61
   62  80  62  60  67  64  66  68  60  75  72  64  60  60  64  61
   60  60  67  74  71  78  69  82  63  77  82  62  84  64  65  63
   60  60  60  60  60  61  74  60  63  60  60  60  60  60  69  60
   63  66  74  60  78  69  74  76  72  60  60  62  62  60  60  60
   60  74  66  80  60  79  63  60  60  60  71  60  60  65  61  60
   60  60  61  61  63  70  69  60  61  60  60  60  62  67  65  60
   62  60  62  75  67  67  62  71  63  64  63  64  60  66  60  62
   79  70  69  74  65  74  60  69  73  71  65  60  60  60  63  60
   60  60  60  60  63  60  60  60  63  61  64  71  76  75  79  75
   74  70  70  72  64  60  60  70  65  77  87  66  74  80  73  60
   60  60  60  60  75  89  89  91  83  89  87  60  60  70  74  73
   71  76  67  60  66  73  67  75  65  73  72  60  60  60  60  63
   60  60  60  60  61  60  60  60  60  65  61  60  66  60  60  74
*EOF




ENTER LOG DATE (DD/MM/YR) : 08/07/79
ENTER SITE CODE (5 CHARS) : SURFA
ENTER USER CODE (4 CHARS) : 0053
 ENTER JOB CODE (3 CHARS) : 080




    DATA LOGGED : 4 JULY 1979              DATA ANALYZED : 28  AUG 1979
         LOGGER : DS-301/26                    SITE CODE : SURFA
  SERIAL NUMBER : 1220                          JOB CODE : 080
       BASELINE : 60 DB                        USER CODE : 0053
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                 STANDBY TIME =   4:55:41

             TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES

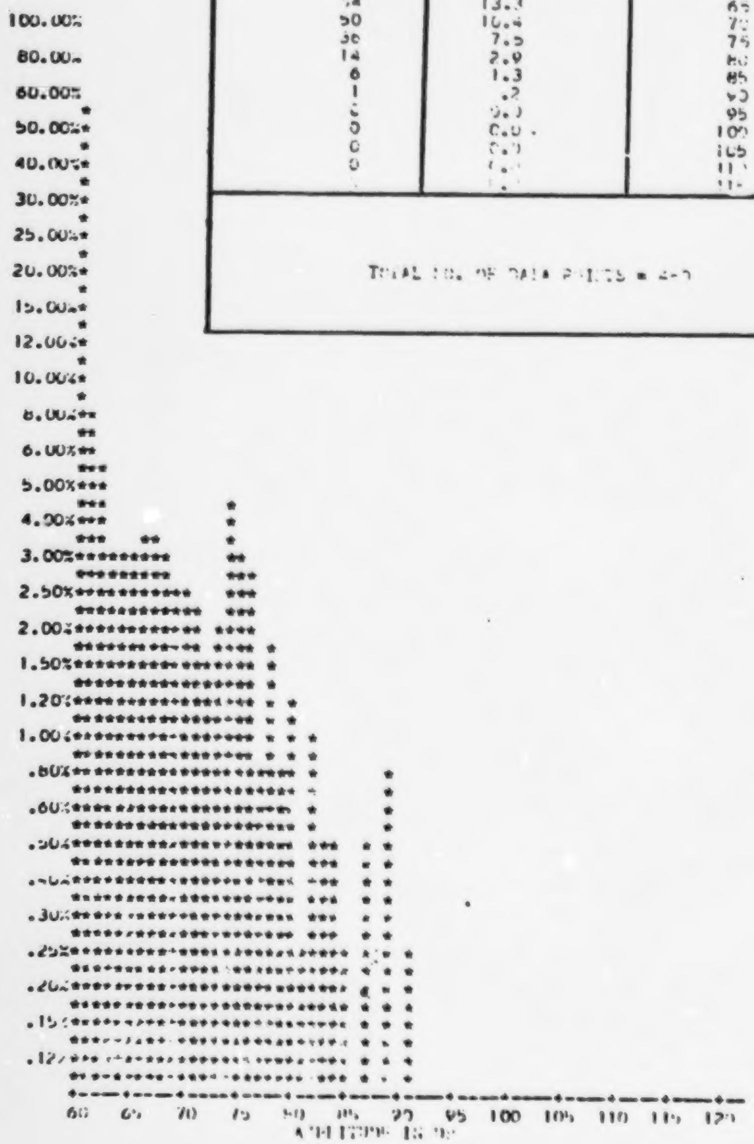

  TIME          LOSHA                     DOSE
  HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
     1       65.4       65.4          .414       .41
     2       65.2       65.3          .409       .81
     3       65.5       65.7          .471      1.2
     4       65.6       65.7          .425      1.71
     5       72.3       67.6         1.074      2.7
     6       69.3       67.9          .705      3.49
     7       65.[illegible]       6[illegible].0          .557      4.15
     [illegible]       [illegible]       [illegible]          1.[illegible]      [illegible]
  [illegible] = [illegible]                [illegible] = [illegible]
  [illegible] = [illegible]
  [illegible] = [illegible]
  [illegible] = [illegible]
```

Amplitude Distribution

㊸

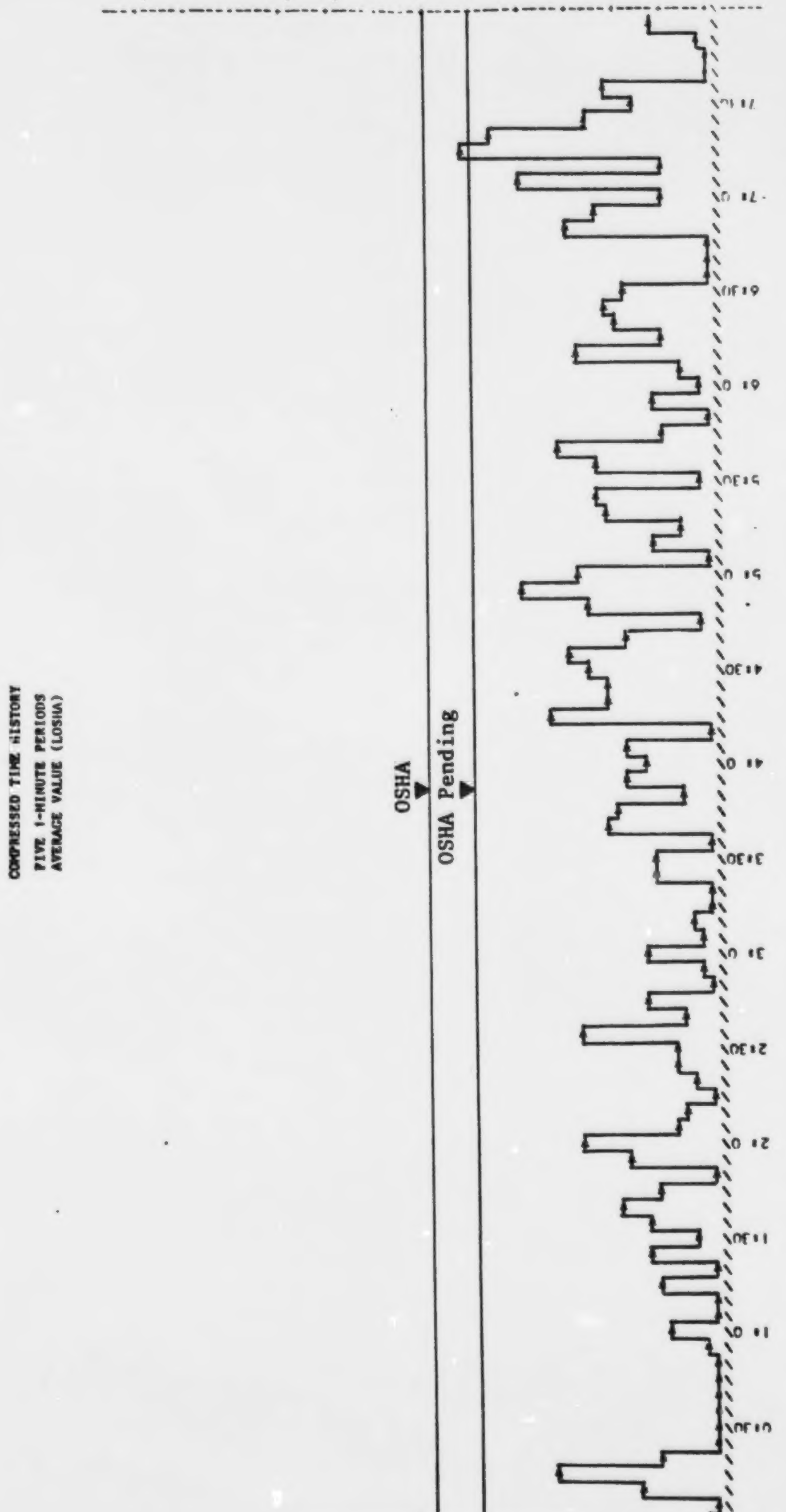
FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
309	[illegible]	60 TO 64
64	13.3	65 TO 69
50	10.4	70 TO 74
36	7.5	75 TO 79
14	2.9	80 TO 84
6	1.3	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
[illegible]	[illegible]	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

㊸


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

Painter (44)

```
ENTER TEST DATE (DY/MO/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : CARSH

ENTER USER CODE (4 CHARS) : 0230
 ENTER JOB CODE (3 CHARS) : 084

  1  26  85  1222   60   64    4    1
  44114     110266   459
 66  69  70  60  60  60  66  84  68  60  60  60  60  60  68  65
 87  82  71  72  83  77  72  74  64  69  64  61  69  67  65  65
 69  70  63  64  68  68  73  82  78  60  60  60  67  65  65  67
 69  70  69  70  70  70  72  60  60  67  60  60  60  60  60  71
 64  65  67  65  60  72  62  60  60  60  61  60  61  60  60  60
 60  61  61  60  60  60  62  83  75  89  60  60  60  60  62  62
 67  63  63  60  60  60  60  60  61  60  60  60  60  60  60  60
 60  60  60  60  60  66  65  60  60  60  60  60  60  60  60  60
 60  73  74  73  75  75  70  71  71  68  71  69  67  68  68  67
 67  66  60  60  62  63  64  62  64  60  68  65  62  60  60  60
 60  60  60  60  60  60  60  68  64  65  70  63  60  60  63  60
 60  60  60  61  61  60  60  68  60  60  60  60  60  60  60  61
 60  60  60  60  60  60  60  60  80  79  84  62  73  71  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  63  64  63  60  60  65  61  63  60  60  60  60  60
 60  60  60  60  64  60  60  60  60  60  60  60  60  60  60  77
 73  72  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  83  77  60  60  60  62  69  60
 60  77  60  60  67  60  70  73  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  64  63  60  60  60  60  61  60
 60  60  60  60  60  60  60  60  60  60  69  86  74  63  61  64
 60  60  60  60  60  60  61  76  60  60  62  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  67  66  60  74
 63  83  60  81  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF

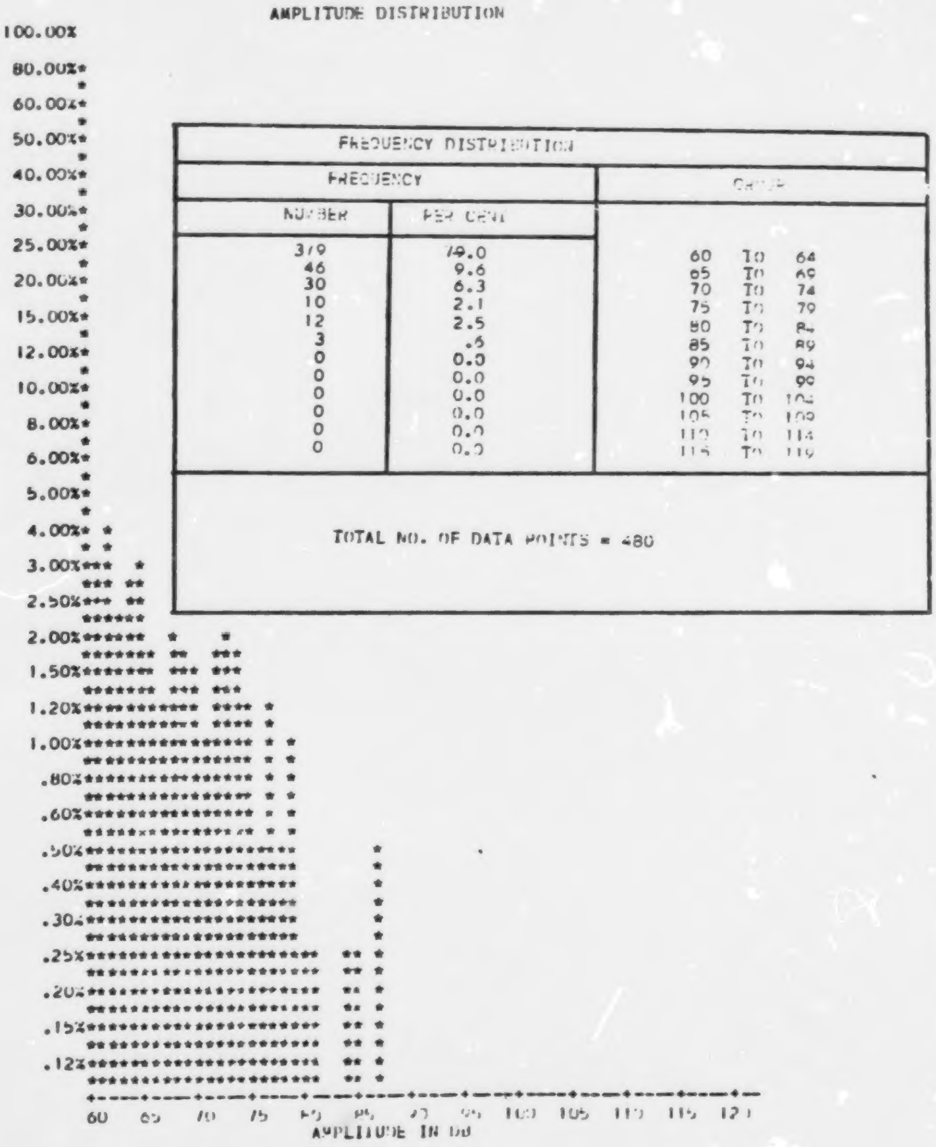

     DATA LOGGED :13 JUNE 1979              DATA ANALYZED : 21  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : CARSH
   SERIAL NUMBER : 1222                          JOB CODE : 084
        BASELINE : 60 DB                        USER CODE : 0230
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110266
   TEST DURATION =    7:39:26                STANDBY TIME =   3: 3:48

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS .
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 459
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT   CUMULATIVE          CURRENT   CUMULATIVE
   1      71.6       71.6               .969        .97
   2      68.6       70.2               .648       1.62
   3      65.7       69.0               .432       2.05
   4      65.4       68.3               .410       2.46
   5      60.4       67.2               .207       2.67
   6      65.8       67.0               .43[illegible]   3.10
   7      64.7       66.7               .377       3.48
   8      [illegible]  66.7             .29[illegible]   3.77
MIN. COMP. =  6[illegible] DB                 MAX. COMP. =  89 DB
ARITHMETIC MEAN =  62 DB
STD. DEVIATION =   5 DB
VARIANCE = [illegible]
```

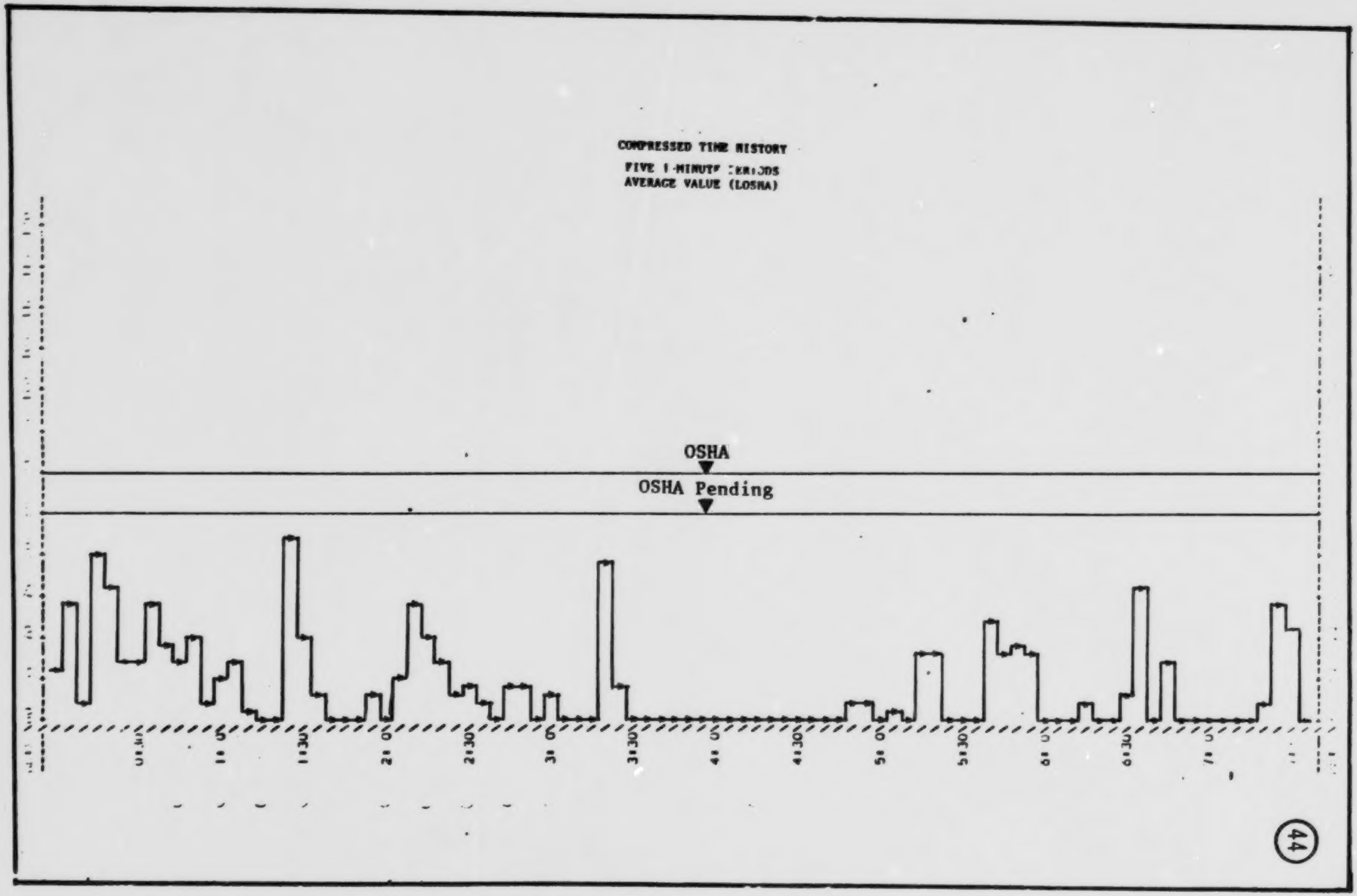
㊹



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
379	79.0	60 TO 64
46	9.6	65 TO 69
30	6.3	70 TO 74
10	2.1	75 TO 79
12	2.5	80 TO 84
3	.6	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 459


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
44

(45)

Janitor

```
[illegible]
 1 [illegible] 60 1.1. 60 64  4  1
 010/7. [illegible] 477
 60 67 62 60 60 60 60 65 63 64 60 60 60 60 60 60
 62 60 60 60 60 60 60 60 63 60 57 51 53 61 60 61
 61 50 62 60 60 60 60 60 50 60 60 60 64 62 60 61
 60 60 60 60 60 60 62 60 63 60 60 60 61 53 50 60
 60 63 60 60 61 60 60 60 61 60 61 60 60 60 63 60
 60 60 60 60 60 60 60 60 55 72 62 61 67 60 60 60
 60 62 60 64 60 60 61 60 50 62 61 62 60 53 60 60
 60 61 60 60 60 60 65 60 60 60 60 60 50 54 62 64
 60 67 69 63 63 62 62 60 64 60 60 67 61 60 60 62
 65 60 65 63 62 69 71 60 65 60 60 60 60 60 50 61
 60 60 60 60 61 67 63 50 71 73 70 60 50 53 63 63
 60 60 60 60 60 61 60 60 63 60 60 60 51 63 61 60
 61 60 60 60 60 62 64 60 60 51 62 60 50 76 73 79
 64 63 64 63 64 64 62 60 50 69 77 76 57 77 67 61
 75 70 63 74 78 60 61 74 71 75 67 63 53 34 46 70
 62 63 79 65 64 65 60 61 57 63 61 61 60 50 67 60
 64 60 61 65 60 60 64 61 53 74 69 62 62 53 62 51
 61 60 60 60 79 81 74 70 71 64 50 60 50 50 51 60
 74 69 65 64 60 60 65 60 60 65 61 64 60 53 65 70
 69 59 71 72 75 62 71 65 55 54 65 64 65 55 70 60
 72 65 71 69 77 70 60 64 64 70 63 60 50 50 65 79
 70 62 63 87 84 59 63 75 71 86 80 78 50 50 61 60
 61 78 82 78 81 63 72 61 59 51 60 63 65 63 83 63
 60 60 60 60 60 60 64 64 67 61 61 60 60 50 60 60
 62 62 60 60 60 60 60 50 60 55 60 60 52 32 83 91
 60 60 60 60 60 60 61 76 31 70 70 79 71 65 60 61
 65 63 62 62 60 60 60 60 61 60 60 60 60 60 60 60
 60 60 60 63 66 74 74 64 63 79 77 80 72 65 60 60
 60 60 60 60 60 60 60 60 60 60 68 60 50 53 60 60
 61 62 60 60 60 60 60 60 60 60 60 69 63 60 60 60
*EOF



ENTER LOG DATE (DD/MM/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : CARPE
ENTER USER CODE (4 CHARS) : 0576
 ENTER JOB CODE (3 CHARS) : 296



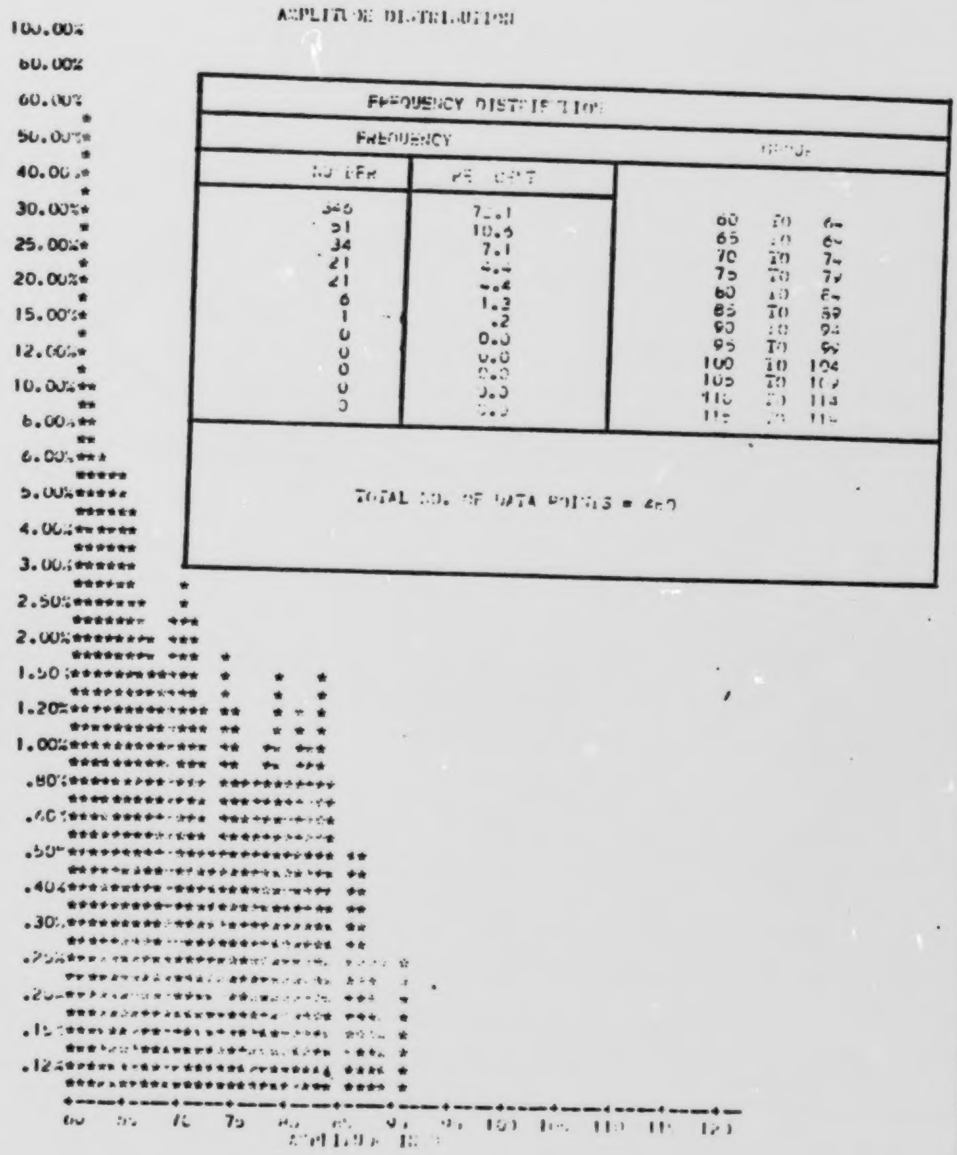
   DATA LOGGED : 4 JULY 1979           DATA ANALYZED : 2[illegible] AUG 1979
        LOGGER : [illegible]-301/26            SITE CODE : CARPE
SERIAL NUMBER : 1212                     JOB CODE : 296
     BASELINE : 60 DB                   USER CODE : 0576
DYNAMIC RANGE : 64 DB                   THRESHOLD : [illegible] DB
SAMPLING RATE : 4/SEC              TOTAL SAMPLES = 114[illegible]
TEST DURATION =   7:57:47            STANDBY TIME =  4:14:28

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
TOUR DUR. = [illegible]
EXCHANGE (HALVING) RATE = 5 [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible] DB
  NUMBER OF COMPUTATIONS = 477
PERIOD = 1 MINUTES

TIME          LOSHA                     N.E.I.
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      61.4      61.4           .24[illegible]       .24
   2      61.4      61.4           .238       .47
   3      63.3      62.1           .31[illegible]       .78
   4      74.6      67.[illegible]          1.51[illegible]      2.30
   5      61.4      67.7           .[illegible]       2.[illegible]
   6      74.6      69.4          1.471       [illegible]
   7      70.6      [illegible]           .[illegible]       [illegible]
   8      65.5      [illegible]           .[illegible]       [illegible]
MIN. CONC. =  60 DB               MAX. CONC. = [illegible]
[illegible]
[illegible] = [illegible]
[illegible] = [illegible]
```

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PERCENT	
346	72.1	60 TO 64
51	10.6	65 TO 69
34	7.1	70 TO 74
21	4.4	75 TO 79
21	4.4	80 TO 84
6	1.3	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 477

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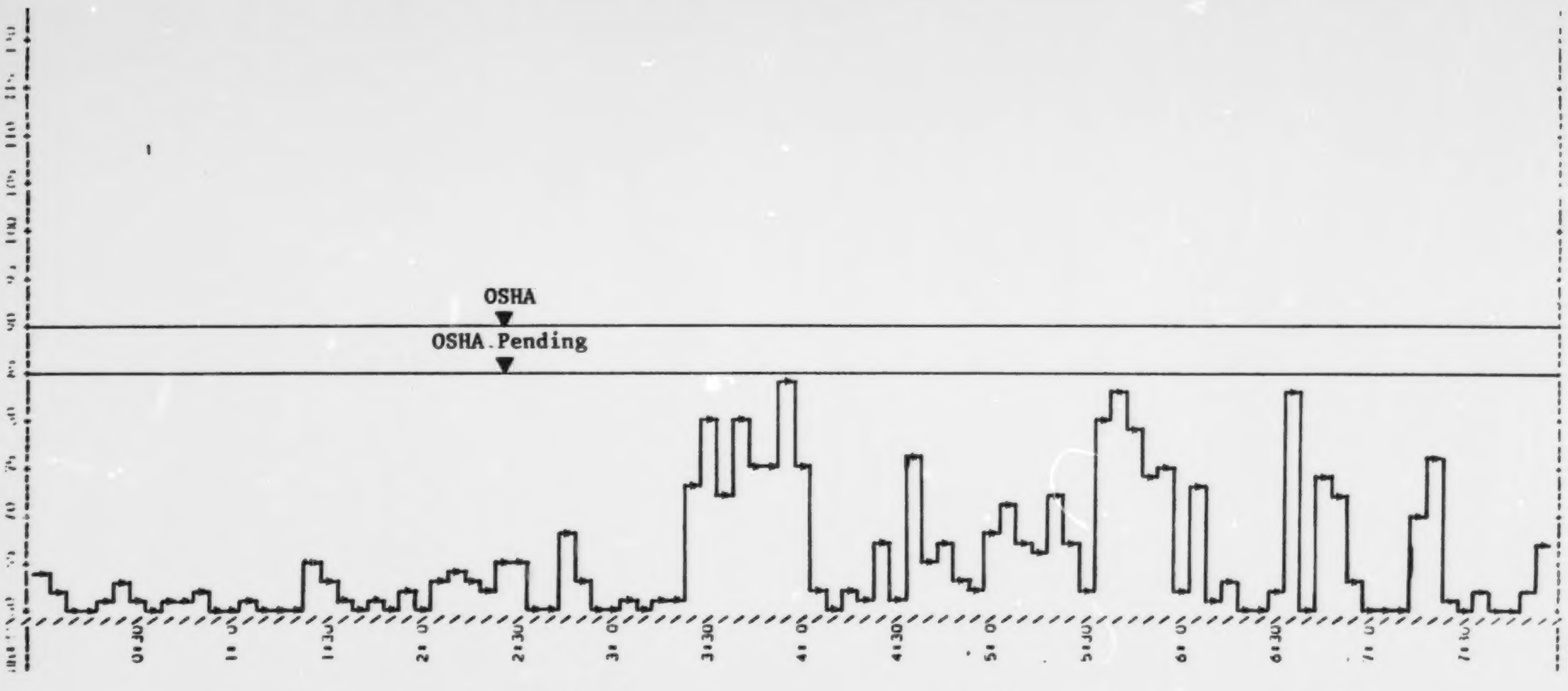
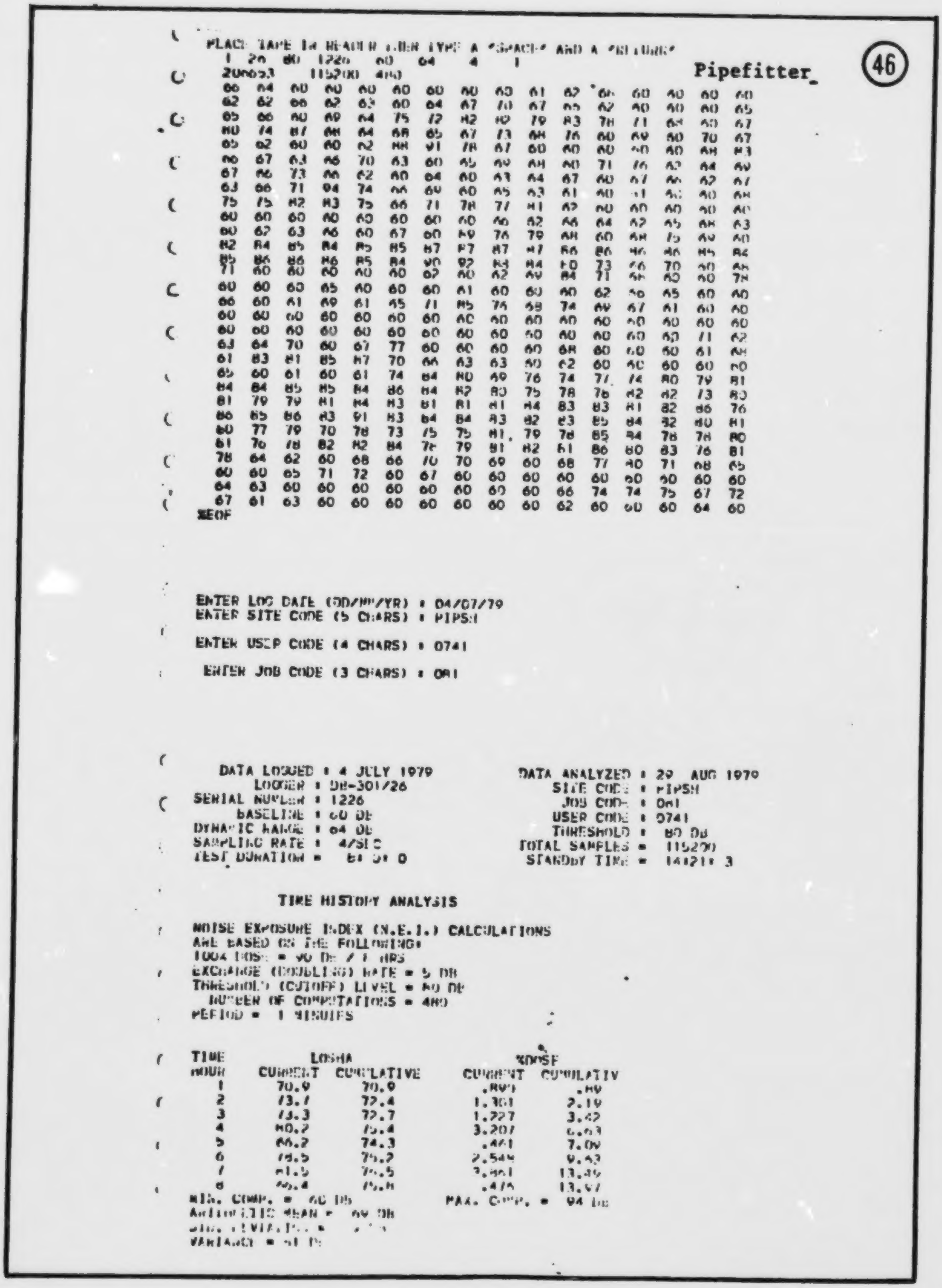
COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





Pipefitter

(46)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  20  80  1226   60   64    4    1
 200653     115200  480
  60  64  60  60  60  60  60  60  60  61  62  66  60  60  60  60
  62  62  60  62  63  60  64  67  70  67  65  62  60  60  60  65
  65  66  80  69  64  75  72  82  80  79  83  78  71  68  60  67
  80  74  87  88  84  68  65  67  73  68  76  60  69  60  70  67
  65  62  60  60  62  88  91  78  67  60  60  60  60  60  68  83
  60  67  63  66  70  63  60  65  69  68  60  71  76  62  64  69
  67  66  73  66  62  60  64  60  63  64  67  60  67  66  62  67
  63  66  71  94  74  66  69  60  65  63  61  60  61  60  60  68
  75  75  82  83  75  66  71  78  77  81  62  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  62  66  64  62  65  68  63
  60  62  63  66  60  67  60  69  76  79  68  60  68  75  69  60
  82  84  85  84  85  85  87  87  87  87  86  86  86  86  85  84
  85  86  86  86  85  84  90  92  83  84  80  73  66  70  60  68
  71  60  60  60  60  60  62  60  62  69  84  71  68  60  60  78
  60  60  60  65  60  60  60  61  60  60  60  62  60  65  60  60
  66  60  61  69  61  65  71  85  76  68  74  69  67  61  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  71  62
  63  64  70  60  67  77  60  60  60  60  68  60  60  60  61  68
  61  83  81  85  87  70  66  63  63  60  62  60  60  60  60  60
  65  60  61  60  61  74  64  80  69  76  74  77  74  80  79  81
  84  84  85  85  84  86  84  82  80  75  78  76  82  82  73  80
  81  79  79  81  84  83  81  81  81  84  83  83  81  82  86  76
  86  85  86  83  91  83  84  84  83  82  83  85  84  82  80  81
  80  77  79  70  78  73  75  75  81  79  78  85  84  78  78  80
  81  76  78  82  82  84  76  79  81  82  61  86  80  83  76  81
  78  64  62  60  68  66  70  70  69  60  68  77  80  71  68  65
  60  60  65  71  72  60  67  60  60  60  60  60  60  60  60  60
  64  63  60  60  60  60  60  60  60  60  66  74  74  75  67  72
  67  61  63  60  60  60  60  60  60  60  62  60  60  60  64  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : PIPSH

ENTER USER CODE (4 CHARS) : 0741

 ENTER JOB CODE (3 CHARS) : 081



   DATA LOGGED : 4 JULY 1979               DATA ANALYZED : 29  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : PIPSH
 SERIAL NUMBER : 1226                            JOB CODE : 081
      BASELINE : 60 DB                          USER CODE : 0741
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =  14:21: 3

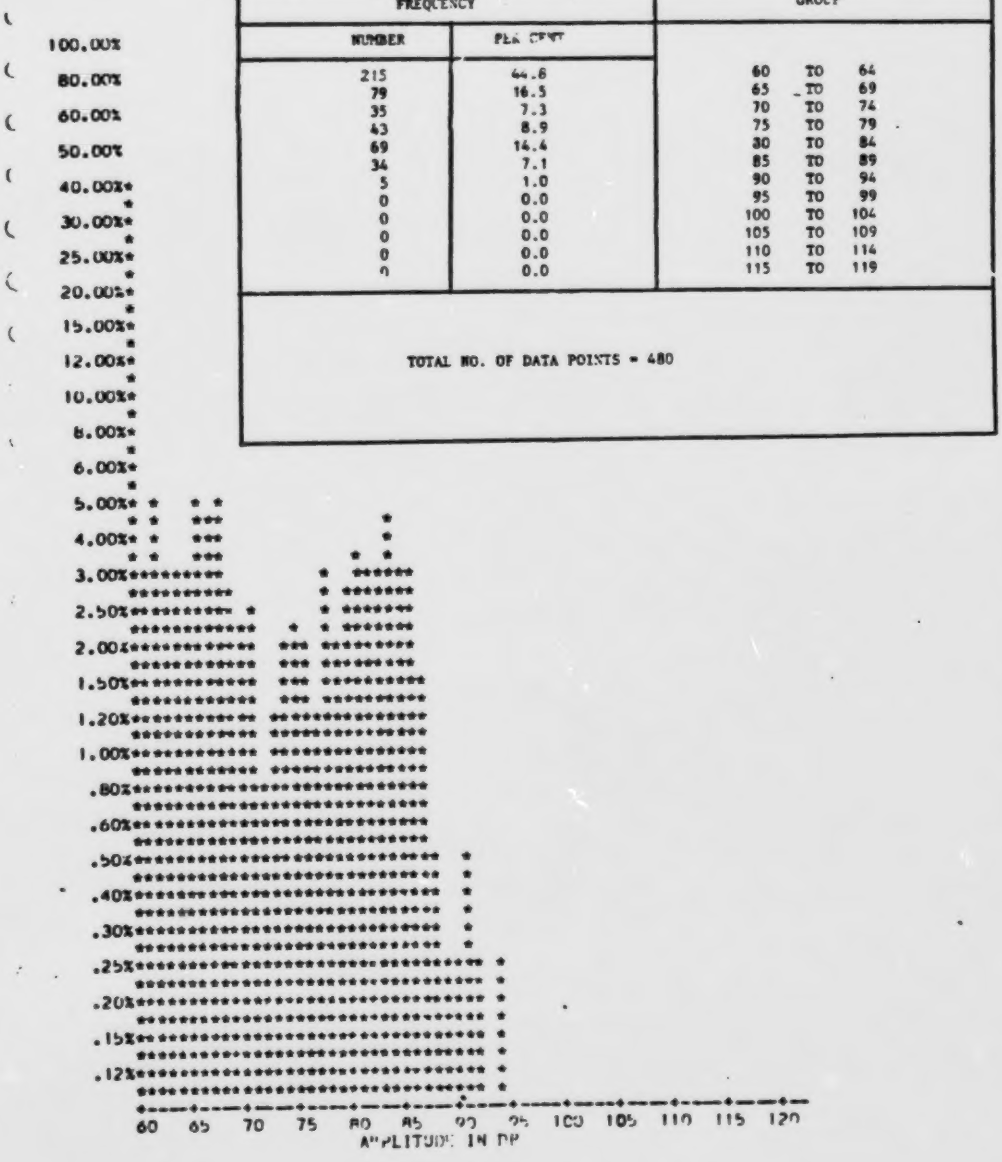
            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME           LOSHA                       %DOSE
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIV
    1       70.9       70.9            .899       .89
    2       73.7       72.4           1.301      2.19
    3       73.3       72.7           1.227      3.42
    4       80.2       75.4           3.207      6.63
    5       66.2       74.3            .461      7.09
    6       79.5       75.2           2.544      9.63
    7       81.5       76.5           3.861     13.49
    8       66.4       76.8            .476     13.97
 MIN. COMP. =  60 DB                 MAX. COMP. =  94 DB
 ARITHMETIC MEAN =  69 DB
 STD. DEVIATION =  [illegible]
 VARIANCE = 61 D
```

(46)

Amplitude Distribution



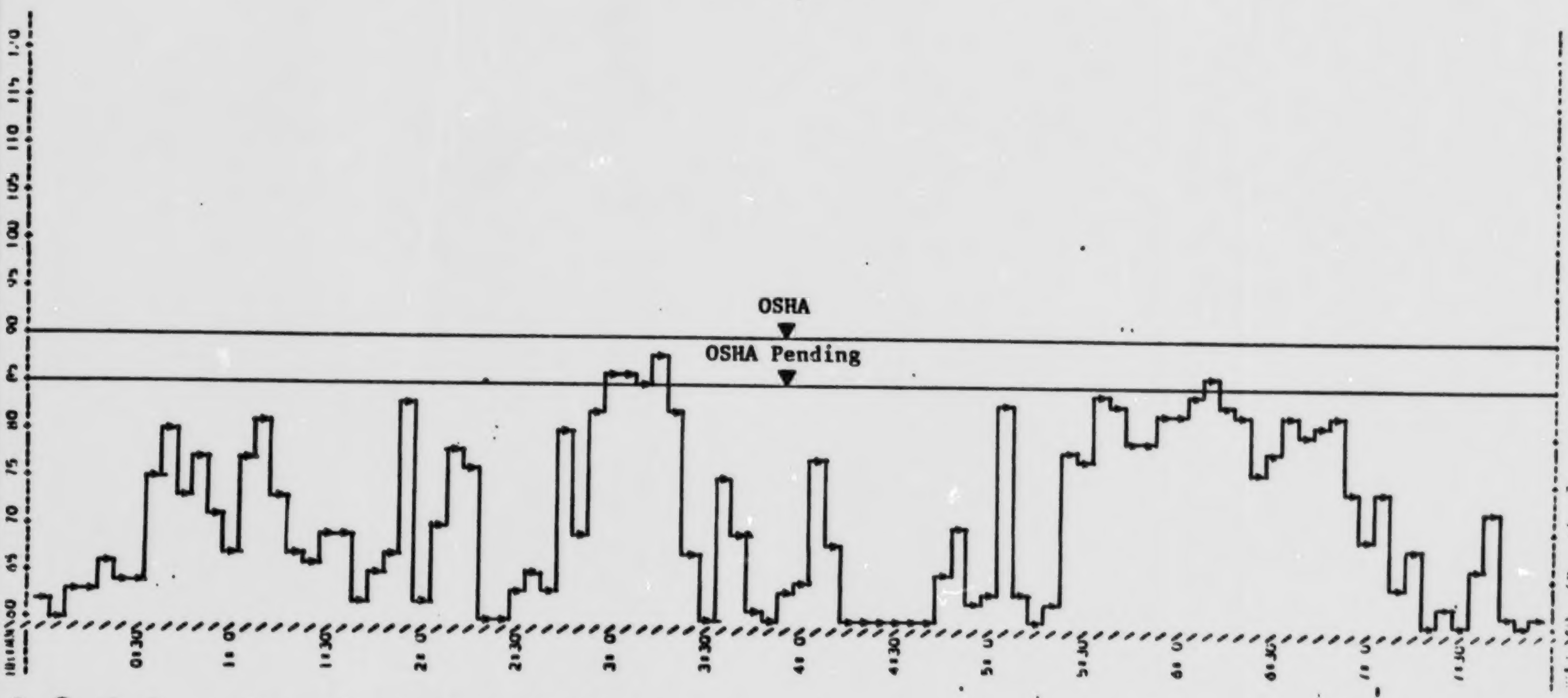
FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
215	44.8	60 TO 64
79	16.5	65 TO 69
35	7.3	70 TO 74
43	8.9	75 TO 79
69	14.4	80 TO 84
34	7.1	85 TO 89
5	1.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(47)

Pipefitter

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1218    60    64     4     1
   69339     115200   480
   62  60  60  60  60  61  63  60  62  61  60  60  60  61  60  60
   62  60  64  60  60  62  60  60  60  60  60  60  60  60  64  60
   71  60  74  68  75  76  78  77  67  59  61  62  66  68  65  75
   72  66  76  74  74  76  61  72  63  64  60  60  60  67  63  60
   63  65  77  84  75  60  60  60  67  73  62  80  60  60  64  71
   64  76  61  60  60  62  62  61  65  73  71  61  60  60  60  60
   60  60  60  60  60  61  64  66  60  65  67  62  63  64  62  63
   72  74  67  68  60  71  63  62  60  65  61  60  61  60  73  73
   76  73  62  66  79  74  70  74  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  61  60  60  61  60  60  60  60  60
   60  60  60  61  61  60  60  62  55  61  61  72  60  69  67  60
   60  60  60  67  78  79  60  66  64  65  73  64  57  78  75  66
   60  62  60  61  61  62  64  60  60  60  60  60  63  60  60  60
   64  60  60  60  75  61  61  63  63  61  60  60  60  64  60  60
   62  60  62  69  71  70  68  71  62  68  65  65  61  51  60  60
   60  60  60  60  60  60  66  80  61  60  67  63  63  60  60  60
   60  61  60  60  60  60  60  63  65  69  76  71  60  64  61  62
   62  64  60  61  60  60  60  60  60  60  63  61  60  60  62  60
   60  60  60  60  60  60  60  60  60  61  79  62  66  72  67  84
   84  83  82  73  60  60  60  60  60  60  60  70  62  63  67  62
   61  70  60  72  76  69  68  65  67  73  65  60  60  72  60  60
   60  60  60  70  76  61  60  72  65  63  91  82  73  70  72  62
   60  60  60  64  61  60  72 .73  83  60  60  60  60  60  63  64
   83  78  70  80  60  87  65  60  71  70  62  60  60  60  62  60
   60  63  69  73  72  75  66  69  60  62  70  61  76  73  62  79
   77  79  78  75  76  79  75  63  63  60  61  62  65  62  60  64
   64  66  60  62  60  61  66  60  63  71  74  72  65  60  60  60
   61  60  61  65  60  60  60  60  60  60  60  60  63  51  64  60
   60  60  60  60  60  60  60  60  60  60  60  65  70  74  51  53
   61  62  60  67  60  61  60  60  60  60  60  60  60  65  62  66
*EOF



ENTER LOG DATE (DD/MM/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : PIPSH
ENTER USER CODE (4 CHARS) : 1659
 ENTER JOB CODE (3 CHARS) : 007



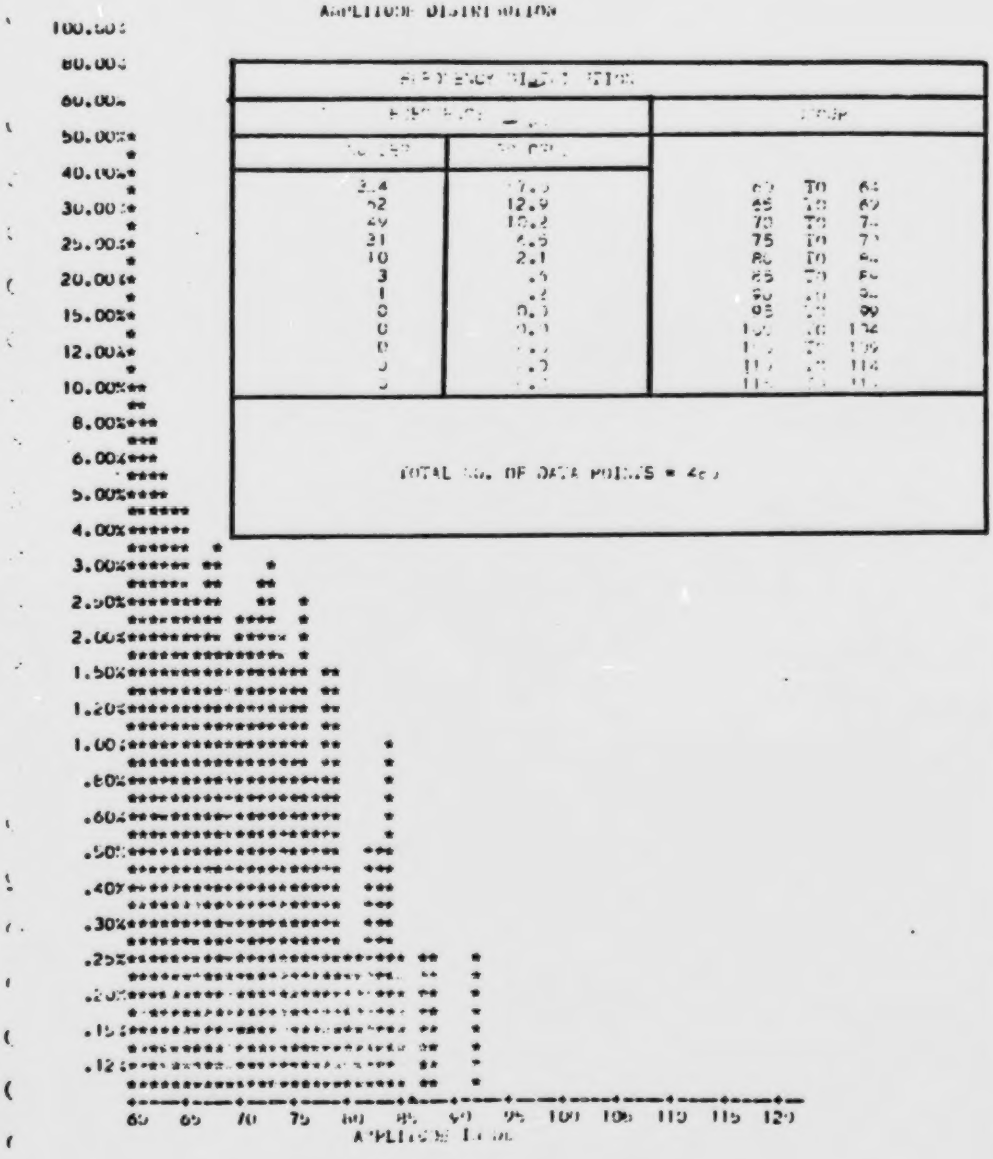
    DATA LOGGED : 4 JULY 1979          DATA ANALYZED : 28  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : PIPSH
 SERIAL NUMBER : 1218                        JOB CODE : 007
      BASELINE : 60 DB                      USER CODE : 1659
 DYNAMIC RANGE : 64 DB                      THRESHOLD : 80 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =   8H 0M 0               STANDBY TIME =  [illegible]

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                       XDOSE
 HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
    1       67.6       67.6          .566        .56
    2       70.1       68.9          .791       1.35
    3       65.5       68.0          .421       1.77
    4       66.6       67.7          .470       [illegible]
    5       63.6       67.0          .321       2.56
    6       71.0       67.9          .893       3.45
    7       73.6       69.0         1.290       4.77
    8       63.3     - 68.5          .302       [illegible]
 MIN. COMP. =  60 DB              MAX. COMP. =  [illegible]
 ARITHMETIC MEAN =  64 DB
 STD. DEVIATION =   6 DB
 VARIANCE = [illegible]
```

(47)



[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
3[illegible]4	[illegible]	60 TO 64
62	12.9	65 TO 69
49	10.2	70 TO 74
31	6.5	75 TO 79
10	2.1	80 TO 84
3	.6	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	[illegible]	[illegible] TO 109
0	[illegible]	[illegible] TO 114
0	[illegible]	[illegible]

TOTAL NO. OF DATA POINTS = 4[illegible]

Number of computations = 480

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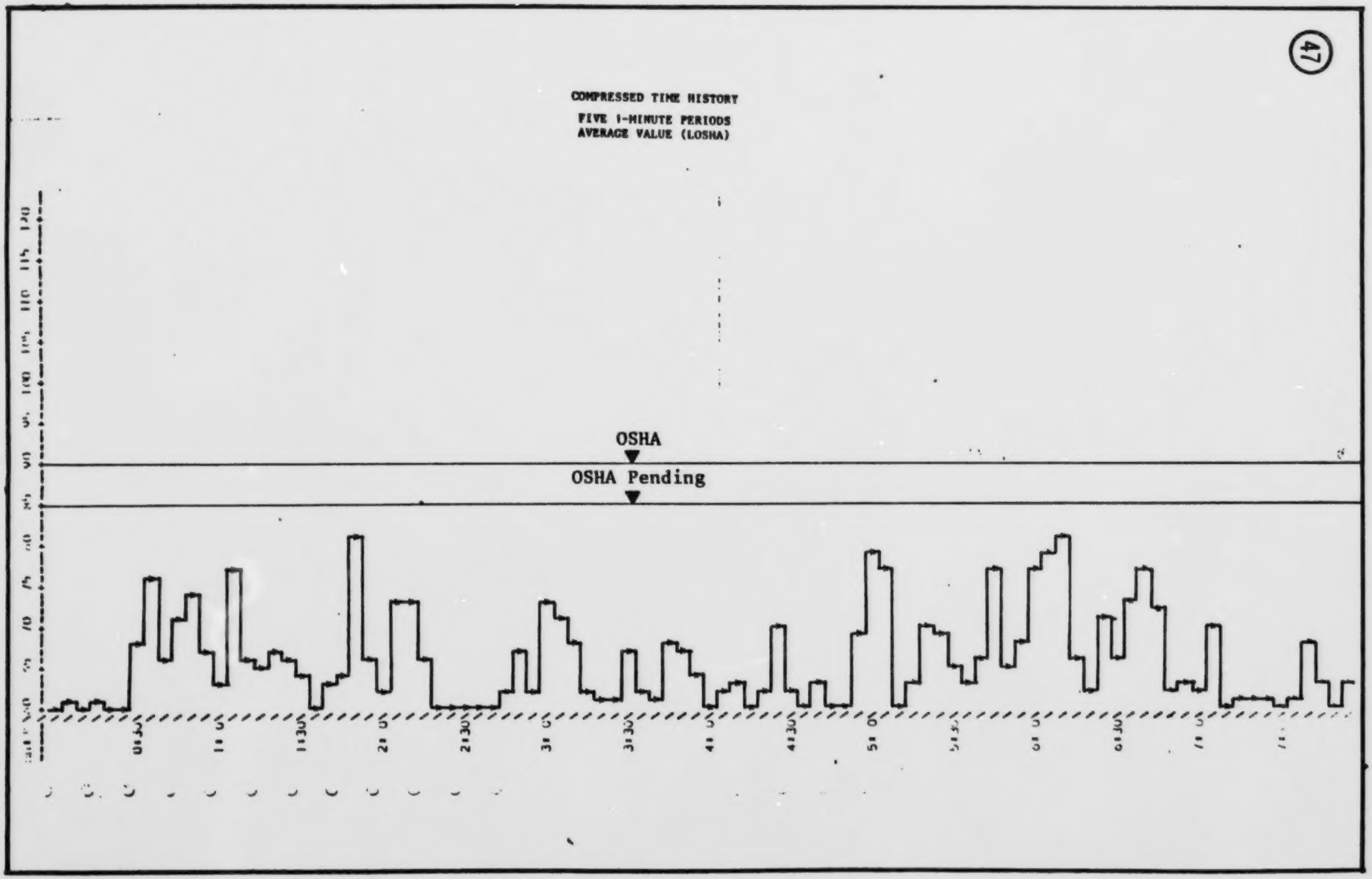
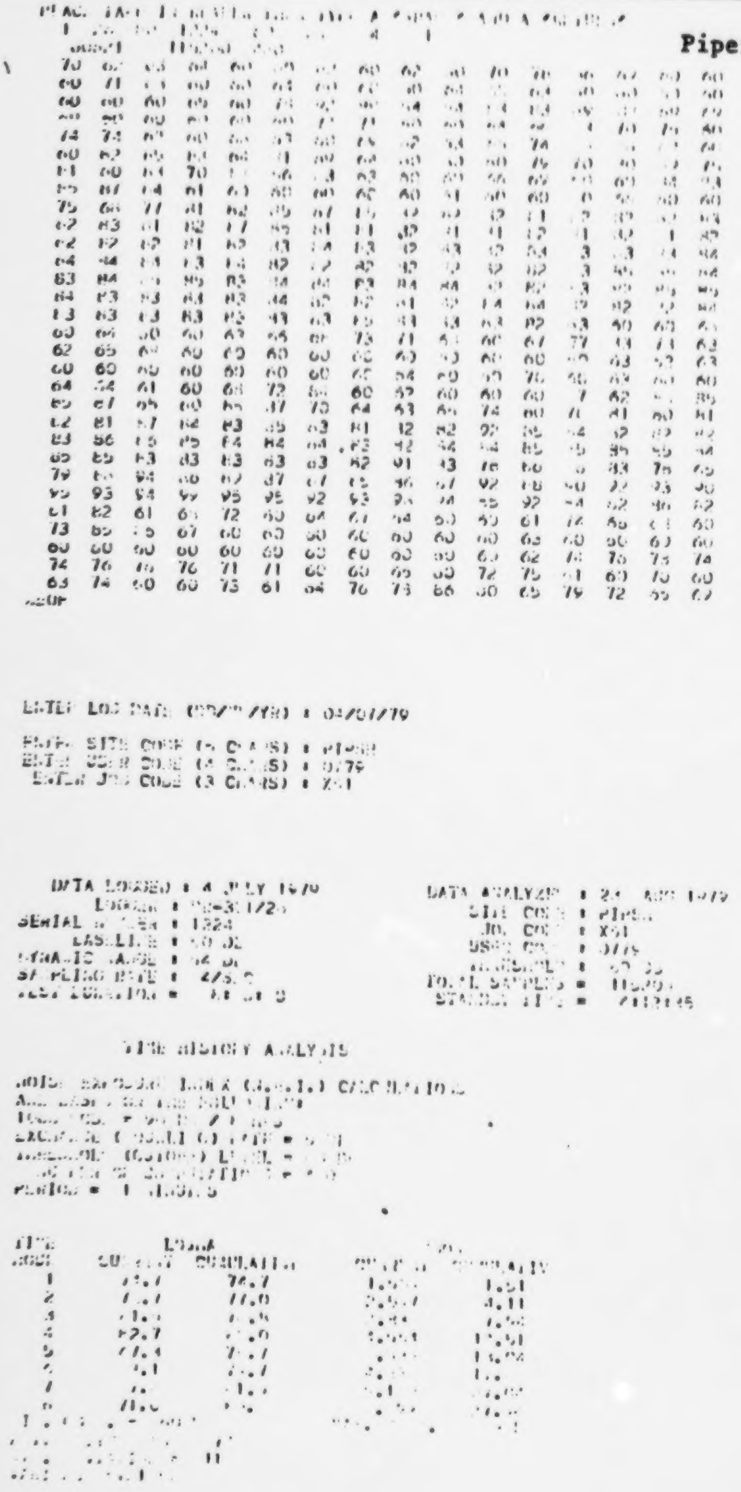


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

Pipefitter (48)



```
[illegible]
 70 6? 63 64 60 [illegible] [illegible] 60 62 [illegible] 70 70 [illegible] 67 [illegible] 60
 60 71 [illegible] 60 60 61 [illegible] [illegible] 60 64 [illegible] 64 60 [illegible] [illegible] 60
 60 60 60 65 60 78 [illegible] [illegible] 54 [illegible] [illegible] [illegible] [illegible] [illegible] 60 [illegible]
 [illegible] [illegible] 60 [illegible] 60 [illegible] [illegible] 71 [illegible]
 74 74 [illegible] 60 [illegible] 63 [illegible] [illegible] [illegible] [illegible] [illegible] 74 [illegible]
 60 62 [illegible] [illegible] 60 [illegible] [illegible] [illegible] [illegible] [illegible] 60 [illegible]
 [illegible] 60 [illegible] 70 [illegible] [illegible] [illegible] 63 80 [illegible]
 [illegible] 87 [illegible] 81 [illegible] 80 60 60 80 [illegible] [illegible] 60 [illegible] [illegible] [illegible] 60
 75 66 77 81 82 [illegible] 67 [illegible]
 [illegible] 83 [illegible] 82 [illegible]
 [illegible] 82 [illegible] 81 82 83 [illegible] 83 [illegible] 83 [illegible]
 64 84 [illegible] 83 [illegible] 82 [illegible] 82 [illegible] [illegible] [illegible] 82 [illegible]
 83 84 [illegible] [illegible] 83 [illegible] [illegible] 83 84 84 [illegible] 82 [illegible]
 84 83 83 84 83 84 [illegible] 82 [illegible] [illegible] [illegible] [illegible] [illegible] 82 [illegible]
 [illegible] 83 83 83 83 [illegible] [illegible] [illegible] [illegible] [illegible] 83 82 [illegible] 80 60 [illegible]
 60 66 60 60 62 65 [illegible] 73 71 [illegible] 60 67 77 [illegible] 71 63
 62 65 [illegible] 60 60 60 60 60 60 [illegible] 60 60 [illegible] 63 [illegible] 63
 60 60 60 60 60 60 60 [illegible] 54 60 [illegible] 76 [illegible] 63 [illegible] 60
 64 [illegible] 61 60 68 72 [illegible] 60 57 60 60 60 7 62 [illegible] [illegible]
 [illegible] 67 65 60 65 87 70 64 63 [illegible] 74 60 [illegible] 81 60 81
 62 81 87 82 83 85 63 81 12 82 92 [illegible] [illegible] 82 [illegible] [illegible]
 83 56 [illegible] 85 84 84 64 83 42 44 [illegible] 85 [illegible] 85 55 44
 65 65 83 83 83 63 63 82 91 43 76 60 [illegible] 83 76 65
 79 [illegible] 94 60 67 87 67 [illegible] 96 67 92 68 60 77 93 90
 95 93 94 97 95 95 92 93 [illegible] 74 55 92 [illegible] 62 96 62
 61 82 61 65 72 60 64 61 54 50 50 61 76 65 [illegible] 60
 73 65 65 67 60 60 60 60 60 60 60 63 60 56 60 60
 60 60 60 60 60 60 60 60 60 60 63 62 76 76 73 74
 74 76 76 76 71 71 60 60 65 60 72 75 61 60 70 60
 63 74 60 60 73 61 64 76 73 66 60 65 79 72 55 62
[illegible]


ENTER LOG DATE (MM/DD/YR) : 04/07/79

ENTER SITE CODE (5 CHARS) : PIPE[illegible]
ENTER USER CODE (4 CHARS) : 0779
 ENTER JOB CODE (3 CHARS) : X51


    DATA LOGGED : 4 JULY 1979                 DATA ANALYZED : 24 AUG 1979
         LOGGER : [illegible]                      SITE CODE : PIPE[illegible]
  SERIAL NUMBER : 1324                              JOB CODE : X51
       BASELINE : 60 DB                            USER CODE : 0779
  DYNAMIC RANGE : [illegible] DB                  [illegible] : [illegible]
  SAMPLING RATE : [illegible]               TOTAL SAMPLES = [illegible]
  TEST DURATION = [illegible]               STARTING TIME = [illegible]

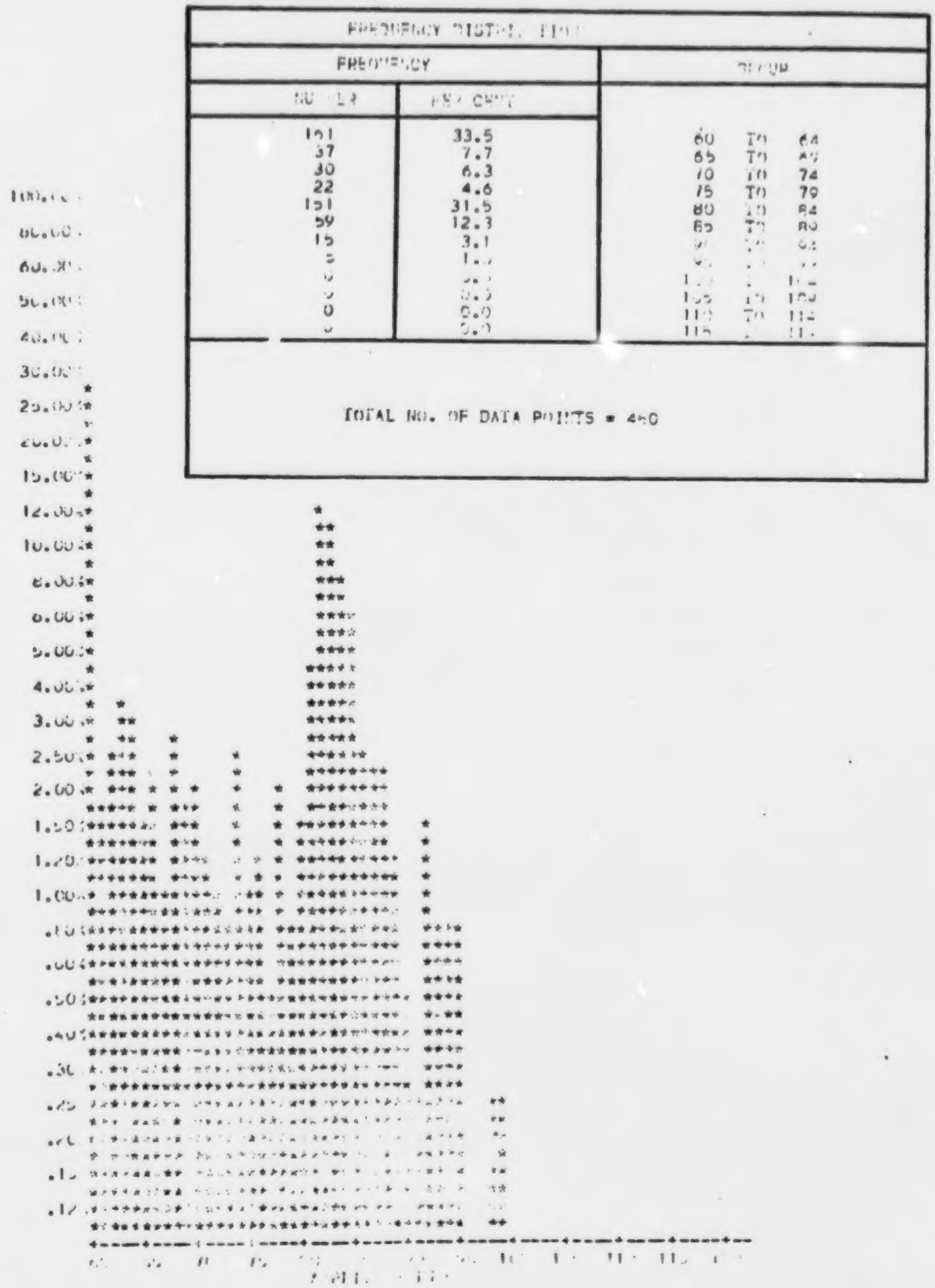
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
[illegible]
[illegible]
EXCHANGE [illegible] RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
[illegible]
PERIOD = 1 [illegible]

TIME          LEQ                        NEI
 [illegible]   CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
    1    [illegible]    76.7          [illegible]     1.51
    2    [illegible]    77.0          [illegible]     4.11
    3    [illegible]   [illegible]    [illegible]   [illegible]
    4      82.7        [illegible]    [illegible]   [illegible]
    5    [illegible]   [illegible]    [illegible]   [illegible]
    6    [illegible]   [illegible]    [illegible]   [illegible]
    7    [illegible]   [illegible]    [illegible]   [illegible]
    8      71.0        [illegible]    [illegible]   [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

(48)

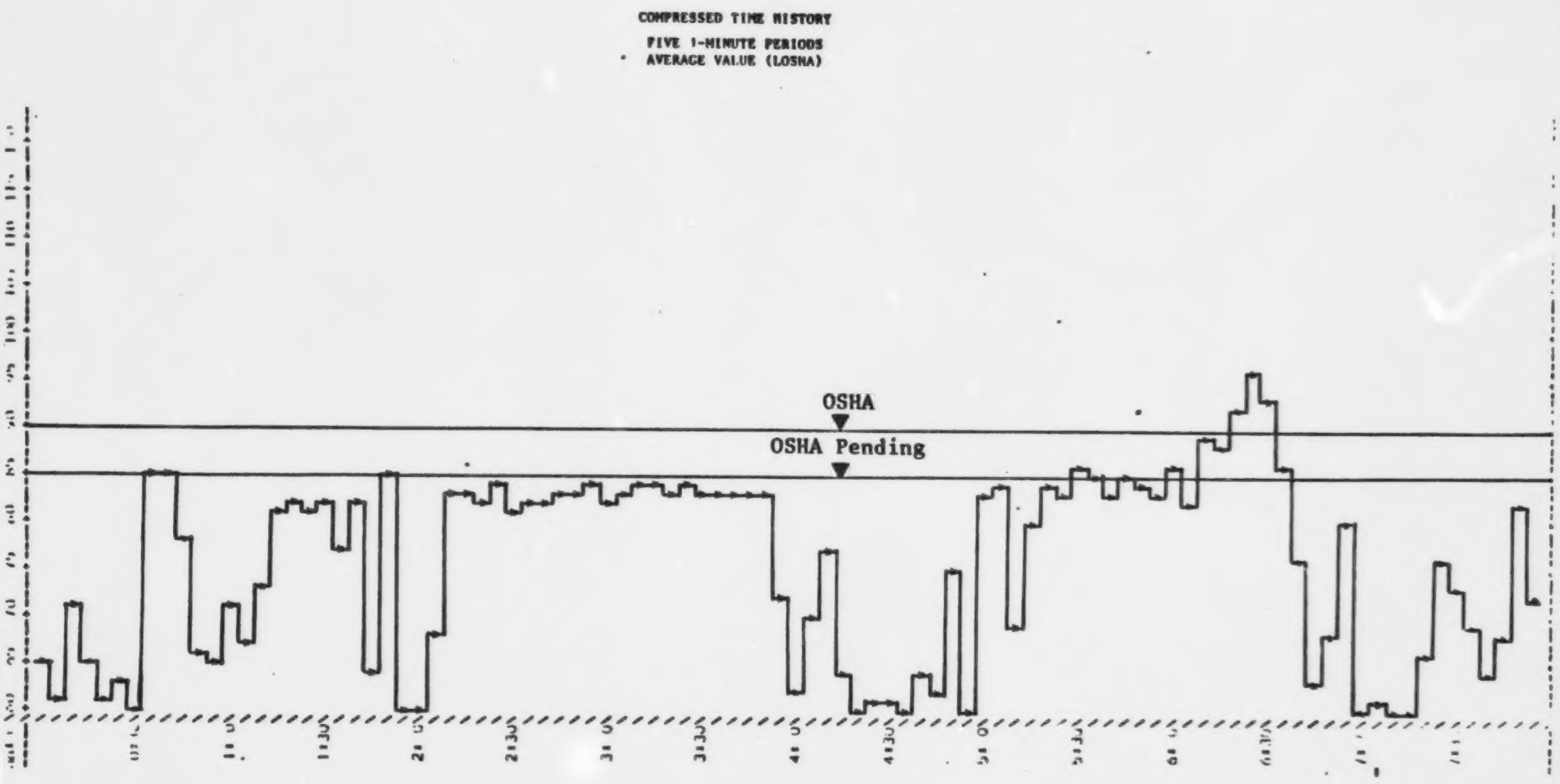
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
161	33.5	60 TO 64
37	7.7	65 TO 69
30	6.3	70 TO 74
22	4.6	75 TO 79
151	31.5	80 TO 84
59	12.3	85 TO 89
15	3.1	90 TO 94
5	1.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
• AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending

(48)

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Pipefitter

```
ENTER LOG DATE (DD/MM/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : PIPSH
ENTER USER CODE (4 CHARS) : 0779
 ENTER JOB CODE (3 CHARS) : X61
  1  26  85  1225    60    64     4     1
   41664     10/370   447
  67  60  76  76  81  60  80  69  80  60  60  60  60  85  82  68
  63  60  60  69  65  60  77  75  60  60  60  60  69  60  60  60
  60  75  77  64  69  63  67  70  77  70  73  69  60  66  62  62
  60  63  60  60  60  60  60  60  62  60  60  60  64  60  61  60
  60  62  60  63  60  60  63  66  64  60  69  60  60  69  60  60
  62  60  65  60  66  60  61  60  60  61  60  62  64  70  71  60
  67  60  60  60  60  73  79  64  77  72  63  60  60  60  67  91
  81  60  62  60  60  69  60  60  68  81  80  83  62  73  63  68
  65  71  78  66  65  60  60  64  60  66  65  73  60  60  64  76
  70  76  84  82  77  62  67  60  60  60  63  60  60  61  77  77
  60  60  60  60  64  74  64  60  84  77  60  97  87  87  87  83
  76  60  63  73  60  78  69  60  63  63  60  72  61  60  69  64
  85  60  71  76  86  87  87  70  73  60  77  70  60  63  60  73
  77  60  60  62  70  60  60  60  60  60  60  60  60  69  62  66
  65  62  61  62  67  63  63  62  60  61  66  61  60  64  62  62
  68  60  60  60  63  72  80  90  89  78  60  60  62  60  62  77
  60  60  60  61  60  60  68  60  60  60  65  63  86  84  79  75
  74  86  80  60  60  60  63  73  64  64  69  60  60  69  71  84
  63  62  61  60  73  68  80  77  74  60  60  62  60  60  60  60
  60  60  60  60  60  66  60  60  72  60  66  82  60  60  60  60
  68  60  61  60  60  60  60  60  60  60  73  65  60  63  61  67
  60  65  63  60  63  64  60  60  60  60  60  60  60  68  65  60
  60  88  74  81  82  85  74  70  60  60  60  60  61  67  71  66
  82  64  82  78  71  69  67  60  60  60  62  88  63  60  60  60
  60  67  61  60  60  60  68  85  67  79  62  60  60  60  62  67
  60  62  60  60  64  61  60  62  64  63  62  70  60  68  60  60
  60  61  93  86  60  74  65  69  60  70  60  63  70  77  79  60
  60  60  64  79  81  74  68  80  64  72  71  62  60  62  71  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

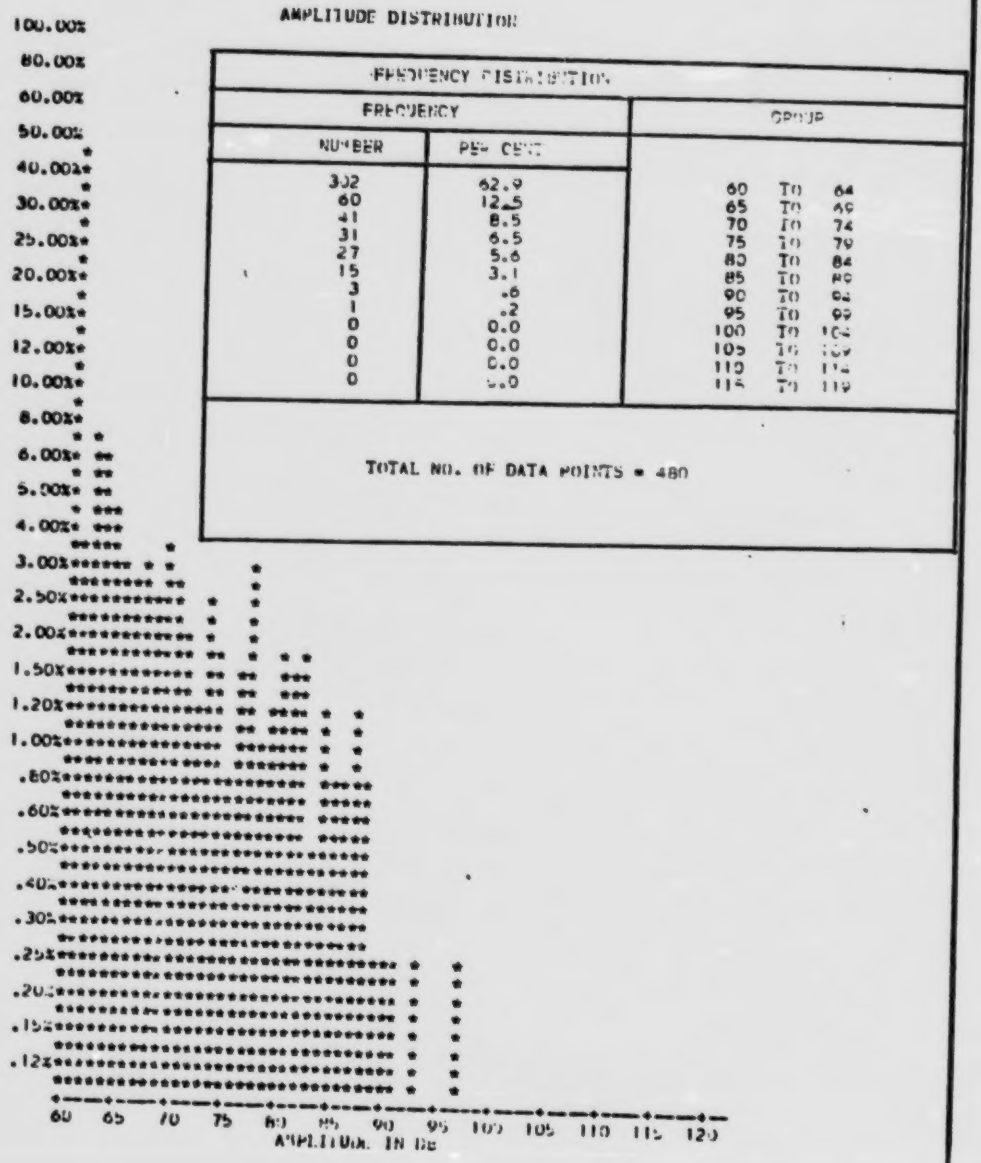
```
   DATA LOGGED :13 JUNE 1979              DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : PIPSH
 SERIAL NUMBER : 1225                          JOB CODE : X61
      BASELINE : 60 DB                        USER CODE : 0779
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  10/370
 TEST DURATION =    7:27:22                STANDBY TIME =   2:53:36


          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 447
 PERIOD =  1 MINUTES


 TIME          LOSHA                        %DOSE
 HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       70.3       70.3             .820        .82
    2       69.0       69.7             .580       1.50
    3       77.1       73.1            2.091       3.59
    4       70.7       72.6             .860       4.45
    5       74.6       73.0            1.485       5.94
    6       69.8       72.6             .763       6.70
    7       73.9       72.8            1.334       8.03
    8       71.5       72.7             .431       8.46
 MIN. COMP. =  60 DB               MAX. COMP. =  97 DB
 ARITHMETIC MEAN =  66 DB
 STD. DEVIATION =   8 DB
 VARIANCE = 64 DB
```

㊾

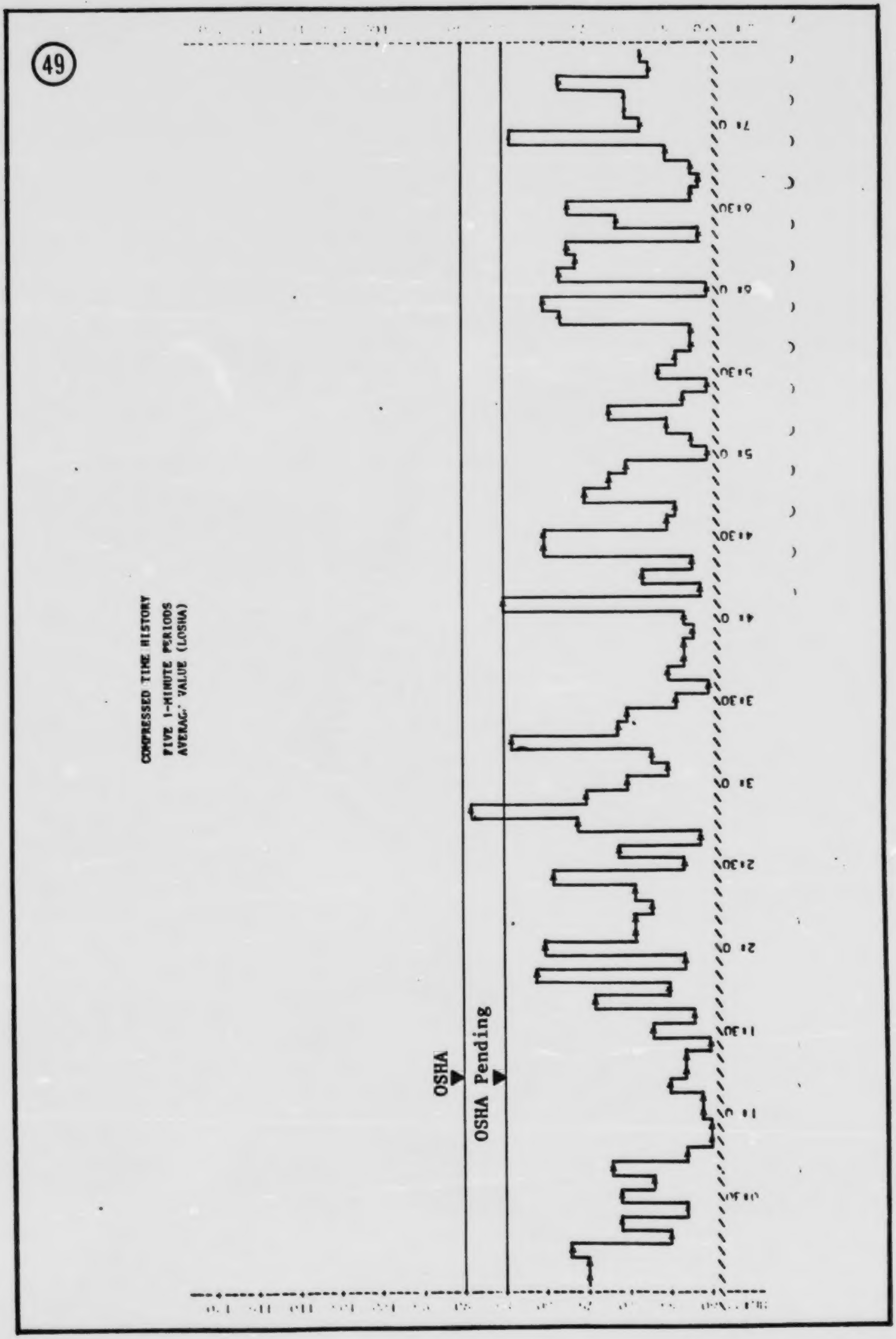


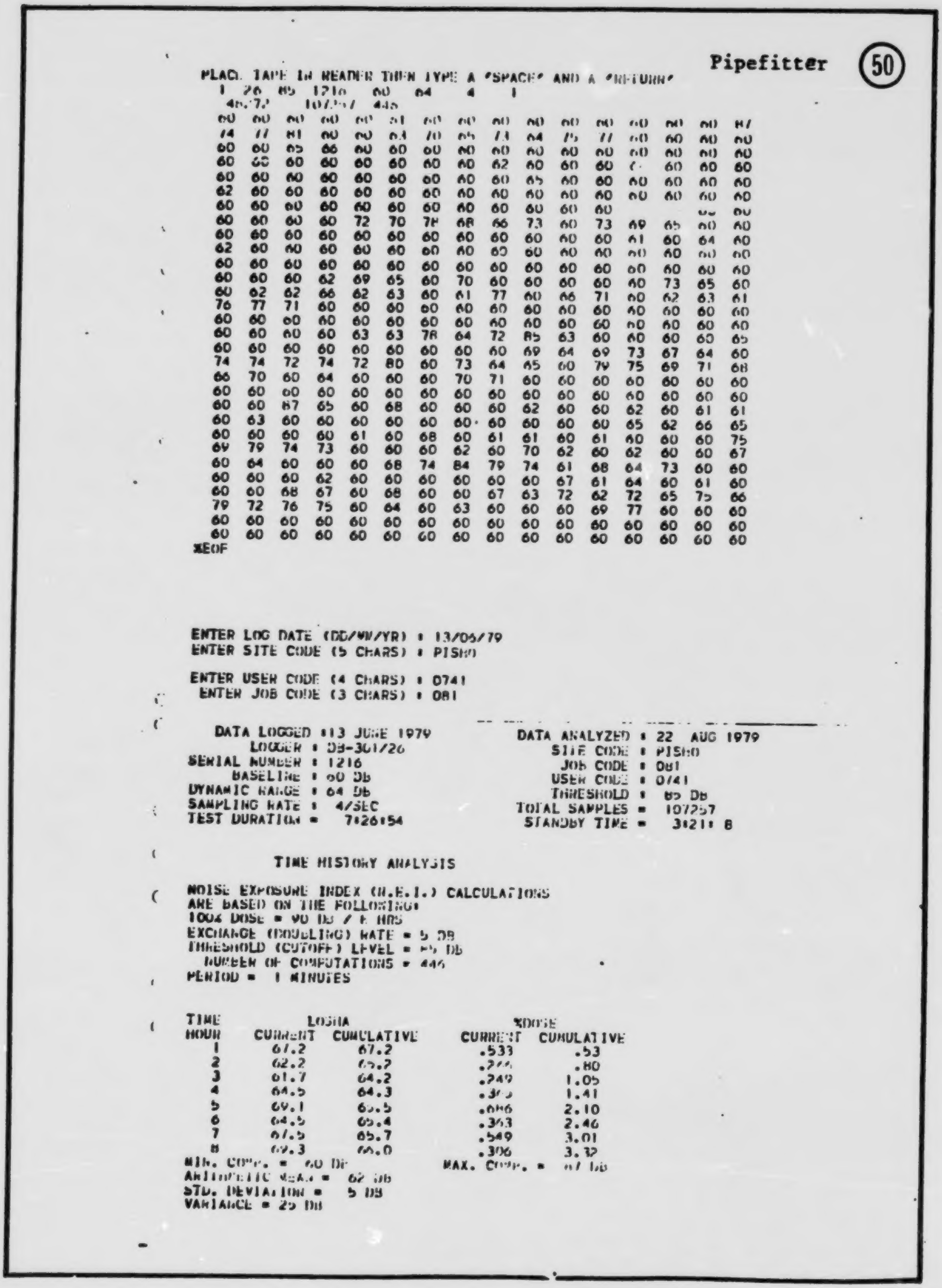
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
302	62.9	60 TO 64
60	12.5	65 TO 69
41	8.5	70 TO 74
31	6.5	75 TO 79
27	5.6	80 TO 84
15	3.1	85 TO 89
3	.6	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 447


49
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
10:30
11: 0
11:30
12: 0
12:30
13: 0
13:30
14: 0
14:30
15: 0
15:30
16: 0
16:30
17: 0



Pipefitter (50)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  85  1216   60   64    4    1
   46:72    107257  446
  60  60  60  60  60  61  60  60  60  60  60  60  60  60  60  87
  74  77  81  60  60  63  70  65  73  64  75  77  60  60  60  60
  60  60  65  66  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  62  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  65  60  60  60  60  60  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60          60  60
  60  60  60  60  72  70  78  68  66  73  60  73  69  65  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  61  60  64  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  62  69  65  60  70  60  60  60  60  60  73  65  60
  60  62  62  66  62  63  60  61  77  60  66  71  60  62  63  61
  76  77  71  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  63  63  78  64  72  85  63  60  60  60  60  65
  60  60  60  60  60  60  60  60  60  69  64  69  73  67  64  60
  74  74  72  74  72  80  60  73  64  65  60  79  75  69  71  68
  66  70  60  64  60  60  60  70  71  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  87  65  60  68  60  60  60  62  60  60  62  60  61  61
  60  63  60  60  60  60  60  60  60  60  60  60  65  62  66  65
  60  60  60  60  61  60  68  60  61  61  60  61  60  60  60  75
  69  79  74  73  60  60  60  62  60  70  62  60  62  60  60  67
  60  64  60  60  60  68  74  84  79  74  61  68  64  73  60  60
  60  60  60  62  60  60  60  60  60  60  67  61  64  60  61  60
  60  60  68  67  60  68  60  60  67  63  72  62  72  65  75  66
  79  72  76  75  60  64  60  63  60  60  60  69  77  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : PISHO

ENTER USER CODE (4 CHARS) : 0741
 ENTER JOB CODE (3 CHARS) : 081

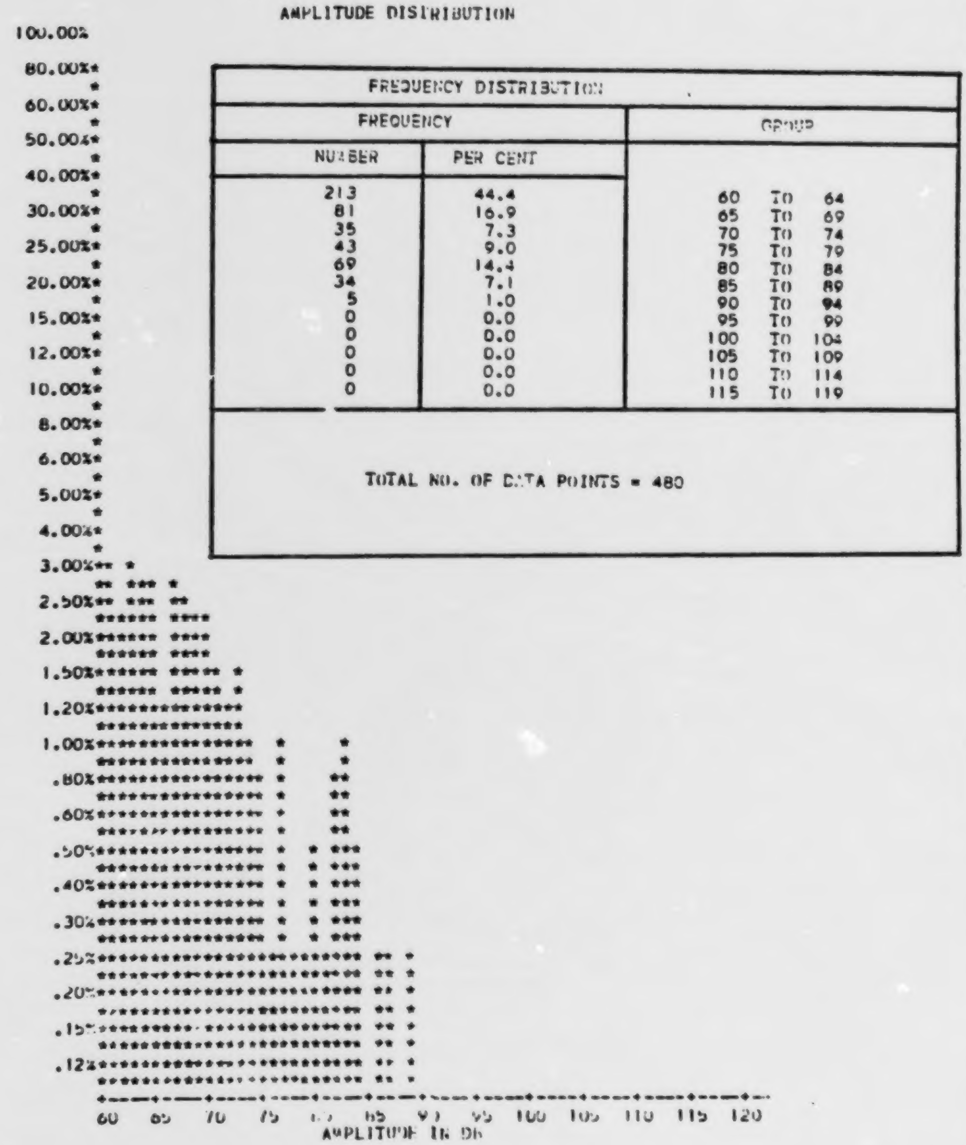
   DATA LOGGED :13 JUNE 1979          DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                SITE CODE : PISHO
 SERIAL NUMBER : 1216                      JOB CODE : 081
      BASELINE : 60 DB                    USER CODE : 0741
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  107257
 TEST DURATION =   7:26:54             STANDBY TIME =   3:21: 8

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 446
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1     67.2       67.2            .533       .53
   2     62.2       65.2            .266       .80
   3     61.7       64.2            .249      1.05
   4     64.5       64.3            .365      1.41
   5     69.1       65.5            .686      2.10
   6     64.5       65.4            .363      2.46
   7     67.5       65.7            .549      3.01
   8     69.3       66.0            .306      3.32
MIN. COMP. =  60 DB              MAX. COMP. =  87 DB
ARITHMETIC MEAN =  62 DB
STD. DEVIATION =   5 DB
VARIANCE = 25 DB
```

㊿



AMPLITUDE DISTRIBUTION

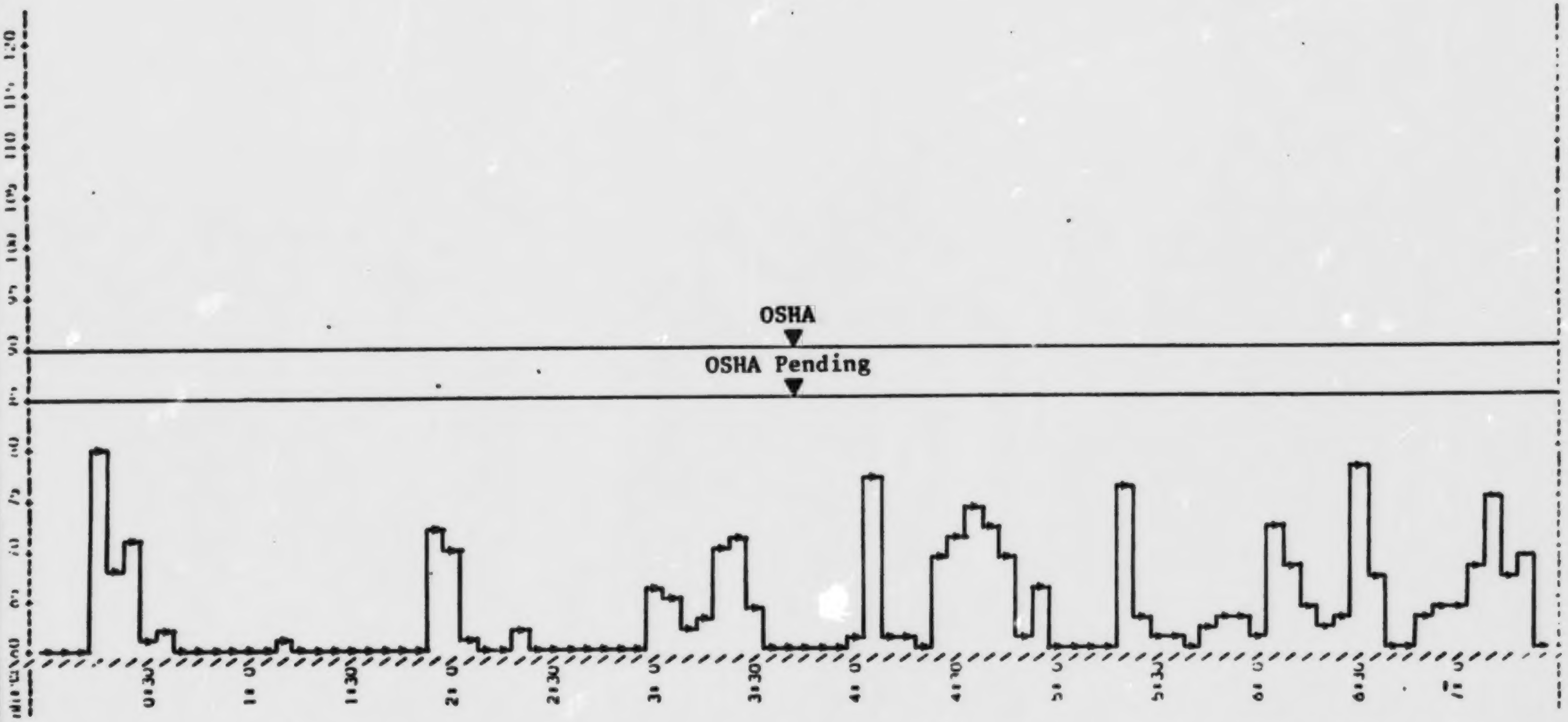
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
213	44.4	60 TO 64
81	16.9	65 TO 69
35	7.3	70 TO 74
43	9.0	75 TO 79
69	14.4	80 TO 84
34	7.1	85 TO 89
5	1.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 446

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



㊿

(51)

Mechanic

```
ENTER LOG DATE (MM/DD/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : GARSU
ENTER USER CODE (4 CHARS) : 0645

 ENTER JOB CODE (3 CHARS) : 012
  1  26  85  1220    60    64     4     1
   40569     105912   441
    72   60   60   60   60   60   63   60   60   60   60   60   60   60   60   60
    65   64   62   69   73   86   79   60   78   60   60   60   60   60   60   60
    72   60   71   70   60   60   60   74   76   63   77   76   78   60   67   60
    60   74   68   64   72   60   60   60   75   68   60   60   60   60   60   60
    60   60   60   60   60   60   60   67   63   60   60   70   78   74   60   64
    68   63   70   60   65   60   60   60   60   60   60   60   60   60   60   62
    63   62   60   71   61   60   60   60   60   60   60   60   68   60   60   73
    69   60   60   60   60   60   60   60   68   73   62   60   64   67   77   77
    60   85   80   65   72   72   81   78   62   66   60   60   60   60   60   60
    60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   63
    62   60   60   60   60   60   60   60   60   60   60   60   60   60   66   60
    60   60   67   66   60   60   60   60   60   60   60   60   64   60   60   66
    65   82   60   60   60   75   60   60   66   60   62   60   60   60   60   60
    60   60   60   60   60   60   60   60   63   60   60   60   60   60   60   60
    60   60   60   60   60   60   60   60   60   60   60   65   60   60   67   63
    60   60   60   60   60   60   61   60   60   60   60   60   66   62   60   60
    68   60   60   60   60   60   72   65   60   60   69   77   60   60   60   67
    76   64   60   60   61   71   60   60   60   60   61   60   60   60   60   60
    62   63   78   77   60   63   60   60   60   60   60   66   60   61   60   63
    60   60   60   61   60   60   60   60   64   60   60   60   60   60   60   60
    60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
    60   85   71   60   60   60   67   60   67   75   60   70   67   71   80   84
    77   60   79   60   60   64   73   61   75   60   71   62   60   60   60   60
    60   60   60   60   60   69   65   68   60   77   76   85   87   90   88   82
    88   85   77   60   62   60   60   76   60   60   60   65   60   61   60   60
    65   65   60   60   60   60   65   63   64   61   60   60   66   60   66   60
    64   60   60   60   60   60   60   63   60   60   68   65   62   60   60   62
    66   63   60   69   66   63   60   63   69   60   60   60   60   60   60   60
    60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
    60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
%EOF




   DATA LOGGED :13 JUNE 1979           DATA ANALYZED : 21  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : GARSU
SERIAL NUMBER : 1220                          JOB CODE : 012
     BASELINE : 60 DB                        USER CODE : 0645
DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  105912
TEST DURATION =    7:21:18                STANDBY TIME =   2:49: 2

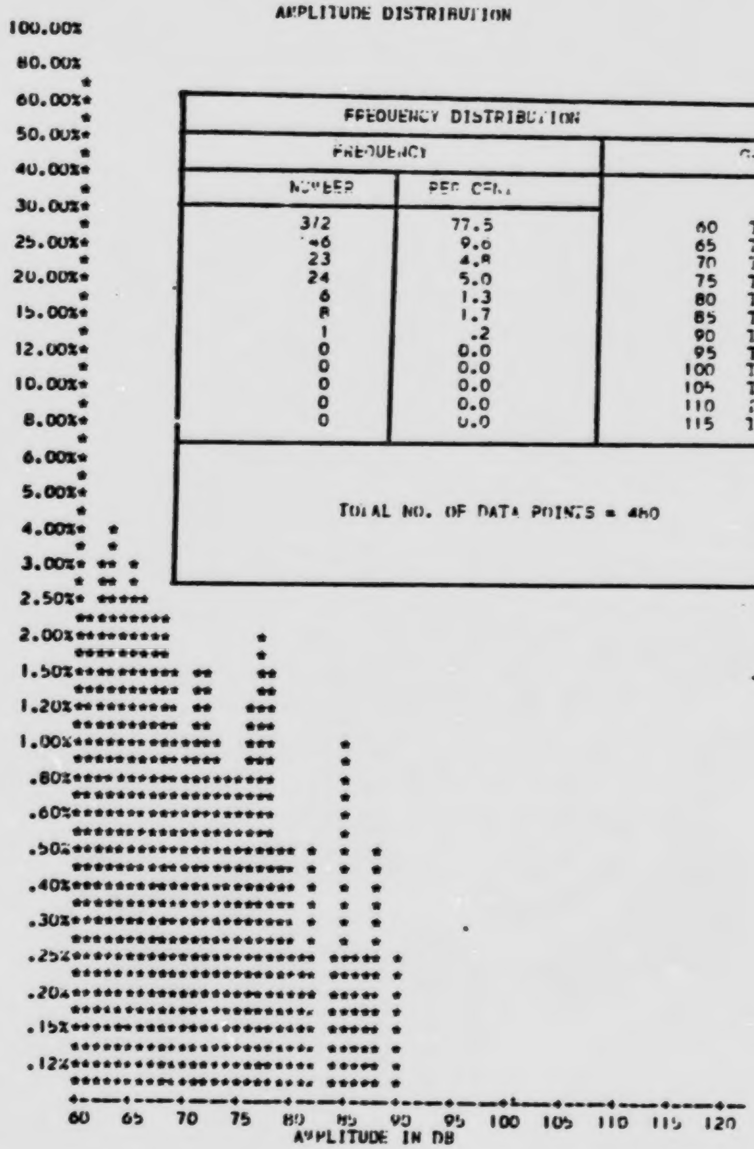

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 441
PERIOD =  1 MINUTES


TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       69.3       69.3            .705        .70
   2       64.0       67.1            .339       1.04
   3       67.9       67.4            .595       1.63
   4       63.3       66.6            .311       1.94
   5       65.0       66.3            .389       2.33
   6       66.1       66.6            .602       2.93
   7       73.7       68.2           1.310       4.24
   8       63.5       6[illegible].0            .112       4.[illegible]
MIN. COMP. =  60 DB              MAX. COMP. =  [illegible]
ARITHMETIC MEAN =  63 DB
STD. DEVIATION =    6 DB
VARIANCE = 36 DB
```

(51)

AMPLITUDE DISTRIBUTION

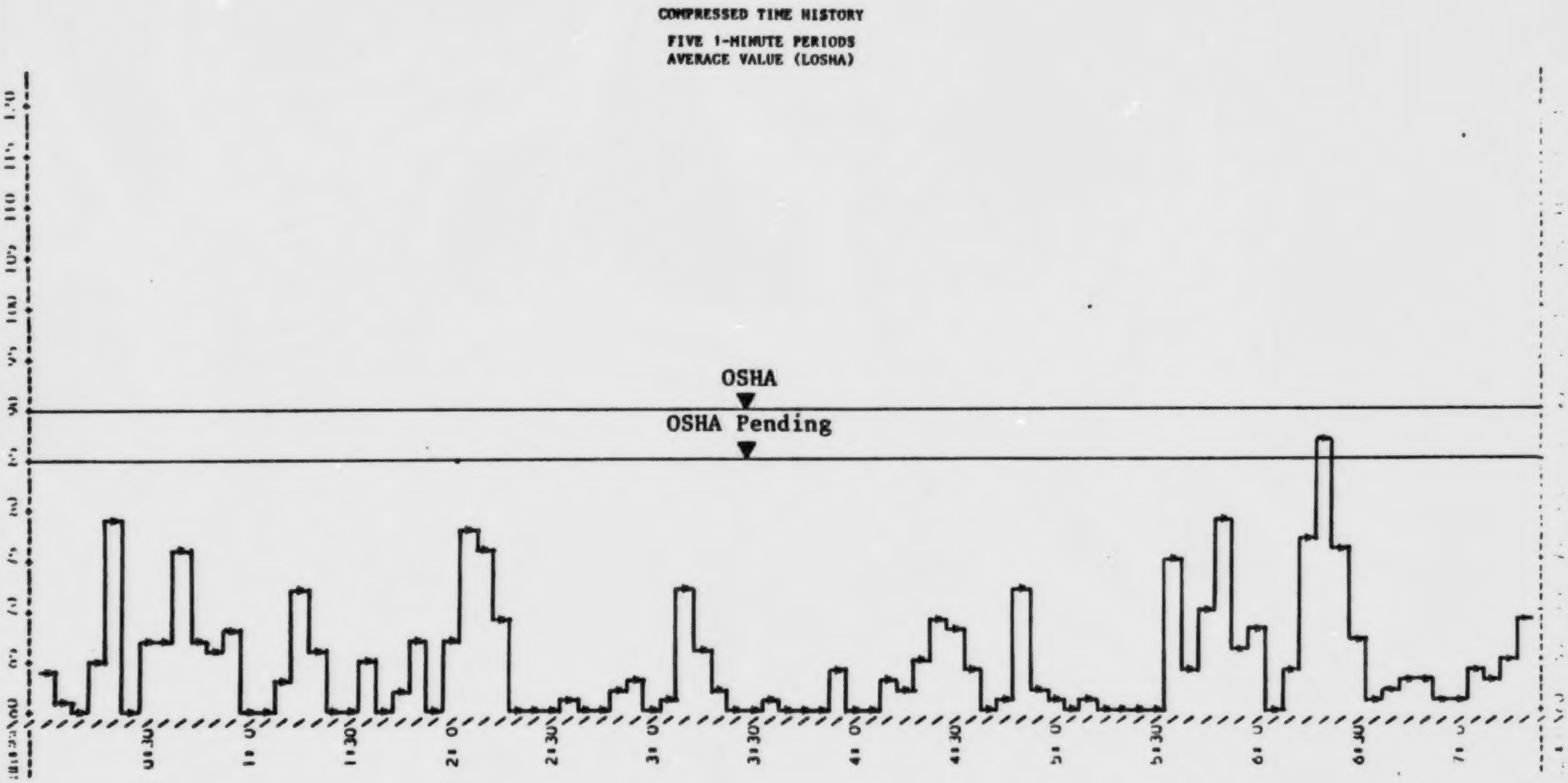


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
372	77.5	60 TO 64
46	9.6	65 TO 69
23	4.8	70 TO 74
24	5.0	75 TO 79
6	1.3	80 TO 84
8	1.7	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 441

(51)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0

Mechanic (52)

```
ENTER LOG DATE (DD/MM/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : GARSU
ENTER USER CODE (4 CHARS) : 1793
 ENTER JOB CODE (3 CHARS) : 002
  1  26  85  1219   60   64    4    1
   45394     105076  437
  72  65  90  88  63  66  85  81  71  65  67  87  83  84  86  68
  60  61  60  60  61  65  62  60  61  61  60  60  60  74  70  70
  60  60  60  64  60  61  72  73  61  70  62  61  64  60  60  60
  65  68  60  67  60  60  60  70  64  72  62  66  60  60  69  72
  68  63  78  77  78  69  60  82  69  71  60  60  61  60  60  70
  61  60  66  61  62  75  77  74  69  60  62  60  60  60  67  76
  68  76  80  79  60  66  62  60  60  61  64  69  72  60  60  60
  60  60  60  60  60  60  60  67  61  60  61  80  60  62  68  60
  60  60  60  61  66  60  60  60  60  60  62  67  60  60  61  60
  60  60  60  60  60  60  60  62  60  60  60  60  67  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  72
  65  67  60  60  60  60  60  60  60  60  60  60  60  60  60  64
  61  60  60  60  60  60  61  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  61  63  60  60  64  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  63  60  64
  66  60  60  60  67  60  60  60  60  63  60  60  60  60  60  60
  60  60  60  65  60  60  60  60  60  60  69  61  73  66  60  60
  60  71  61  60  60  67  60  60  60  60  60  60  60  60  60  60
  63  64  60  64  60  60  60  60  60  60  60  60  60  60  60  85
  67  60  60  60  61  60  60  63  60  64  77  60  60  67  78  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  66  61
  60  63  60  65  60  73  60  60  60  65  66  81  70  69  64  60
  61  60  77  69  60  60  62  63  67  60  60  60  60  60  60  60
  63  61  60  60  60  64  64  60  60  60  60  60  60  60  61  60
  64  60  60  60  60  60  62  64  60  60  60  60  60  60  60  67
  60  64  63  63  67  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
$EOF



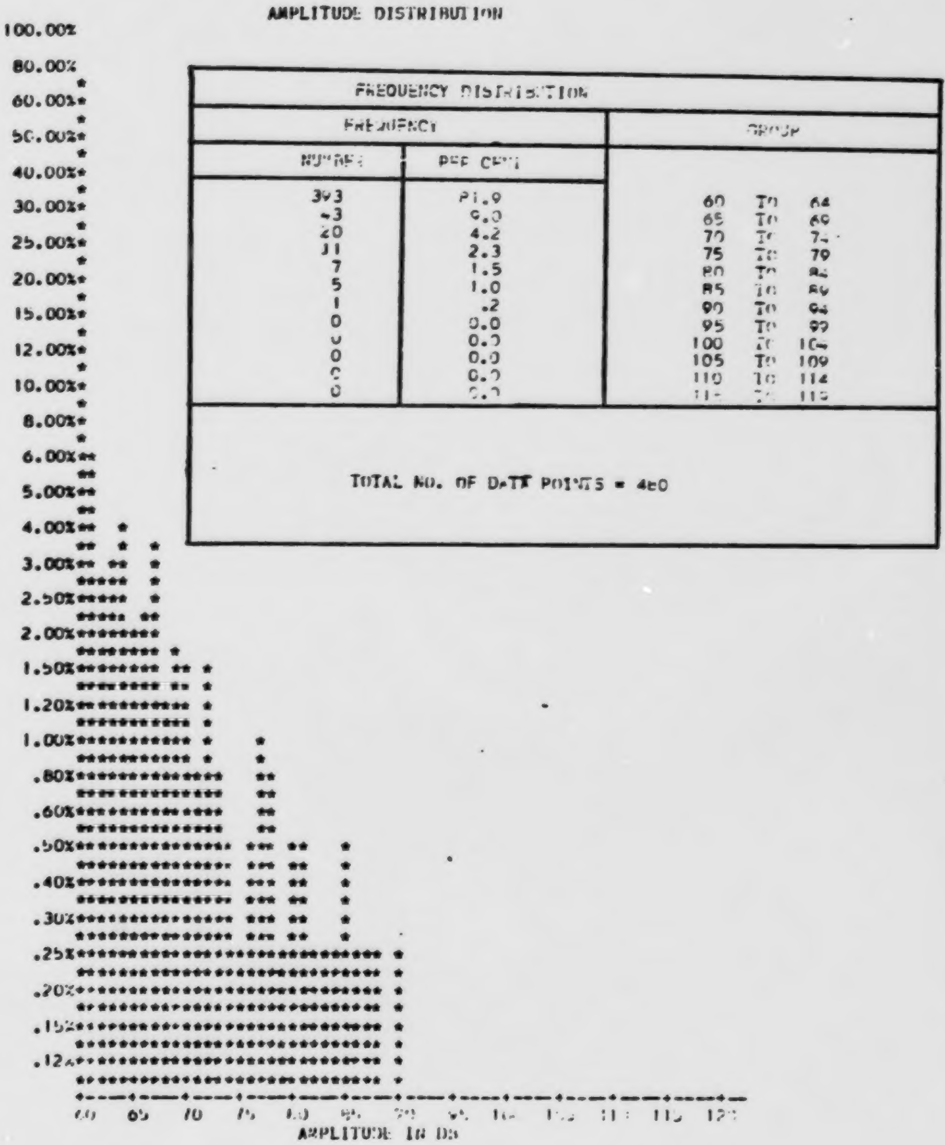
     DATA LOGGED :13 JUNE 1979                 DATA ANALYZED : 21  AUG 1979
          LOGGER : DB-301/26                       SITE CODE : GARSU
   SERIAL NUMBER : 1219                             JOB CODE : 002
        BASELINE : 60 DB                           USER CODE : 1793
   DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  105076
   TEST DURATION =    7:17:49                   STANDBY TIME =   3: 9: 8

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 437
PERIOD =  1 MINUTES

TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1      73.8       73.8              1.315      1.32
   2      69.3       71.9               .713      2.03
   3      62.9       69.9               .293      2.32
   4      60.1       68.5               .192      2.52
   5      60.8       67.4               .217      2.74
   6      65.6       67.2               .424      3.16
   7      64.5       66.8               .363      3.53
   8      62.2       66.7               .075      3.60
MIN. COMP. =  60 DB                  MAX. COMP. = [illegible]
ARITHMETIC MEAN =  67 DB
STD. DEVIATION =   5 DB
VARIANCE = 25 DB
```

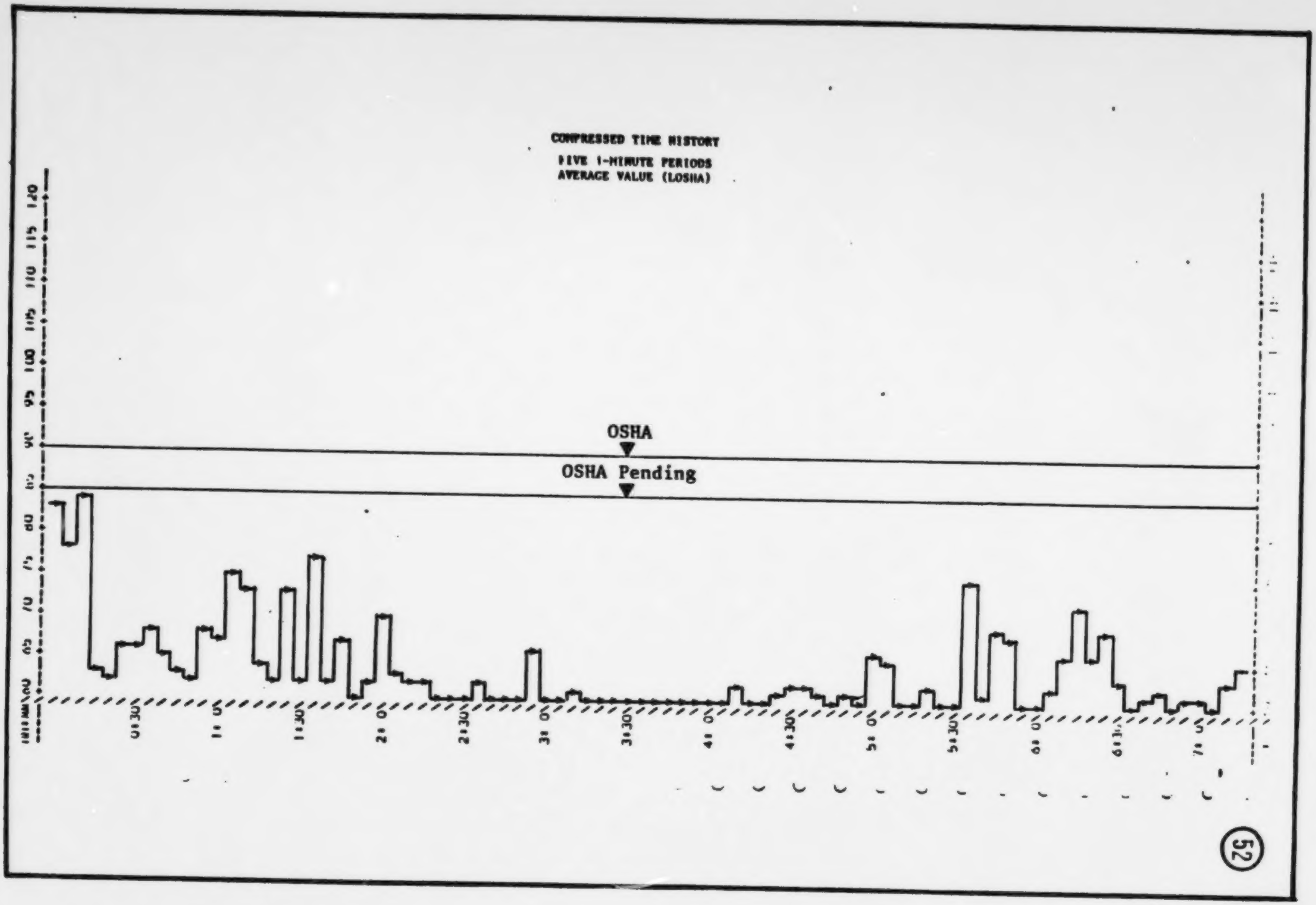
(52)

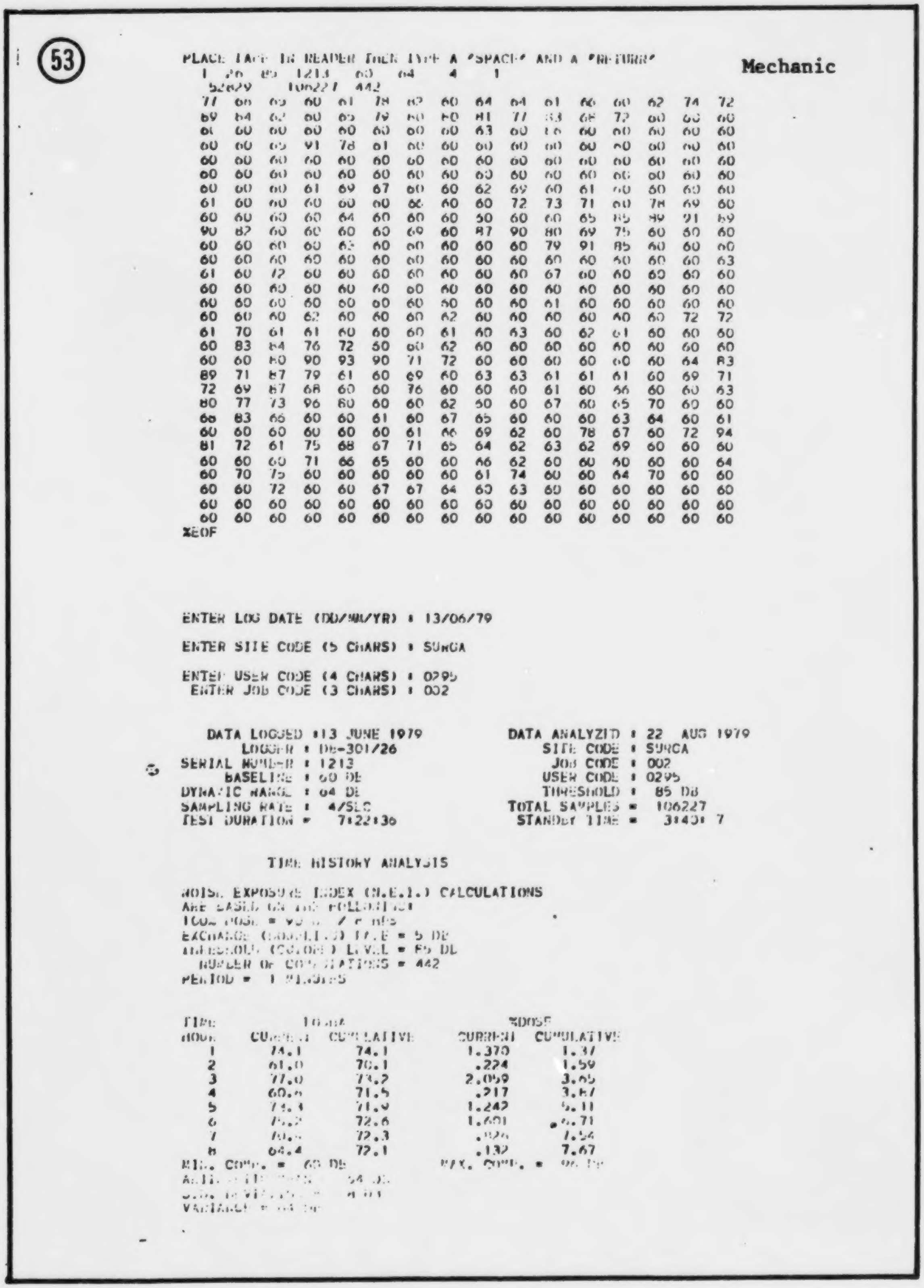


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
393	81.9	60 TO 64
43	9.0	65 TO 69
20	4.2	70 TO 74
11	2.3	75 TO 79
7	1.5	80 TO 84
5	1.0	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 437


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
52



(53)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  85  1213   60   64    4    1
   52829    106227  442
   77   60   65   60   61   78   62   60   64   64   61   66   60   62   74   72
   69   64   62   60   65   79   80   80   81   77   83   68   72   60   60   60
   60   60   60   60   60   60   60   60   63   60   60   60   60   60   60   60
   60   60   65   91   78   61   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   61   69   67   60   60   62   69   60   61   60   60   60   60
   61   60   60   60   60   60   66   60   60   72   73   71   60   78   69   60
   60   60   60   60   64   60   60   60   60   60   60   65   85   89   91   69
   90   82   60   60   60   60   69   60   87   90   80   69   75   60   60   60
   60   60   60   60   62   60   60   60   60   60   79   91   85   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   63
   61   60   72   60   60   60   60   60   60   60   67   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   61   60   60   60   60   60
   60   60   60   62   60   60   60   62   60   60   60   60   60   60   72   72
   61   70   61   61   60   60   60   61   60   63   60   62   61   60   60   60
   60   83   84   76   72   60   60   62   60   60   60   60   60   60   60   60
   60   60   80   90   93   90   71   72   60   60   60   60   60   60   64   83
   89   71   87   79   61   60   69   60   63   63   61   61   61   60   69   71
   72   69   87   68   60   60   76   60   60   60   61   60   66   60   60   63
   80   77   73   96   80   60   60   62   60   60   67   60   65   70   60   60
   66   83   66   60   60   61   60   67   65   60   60   60   63   64   60   61
   60   60   60   60   60   60   61   66   69   62   60   78   67   60   72   94
   81   72   61   75   68   67   71   65   64   62   63   62   69   60   60   60
   60   60   60   71   66   65   60   60   66   62   60   60   60   60   60   64
   60   70   75   60   60   60   60   60   61   74   60   60   64   70   60   60
   60   60   72   60   60   67   67   64   60   63   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
%EOF



ENTER LOG DATE (DD/MM/YR) : 13/06/79

ENTER SITE CODE (5 CHARS) : SURCA

ENTER USER CODE (4 CHARS) : 0295
 ENTER JOB CODE (3 CHARS) : 002

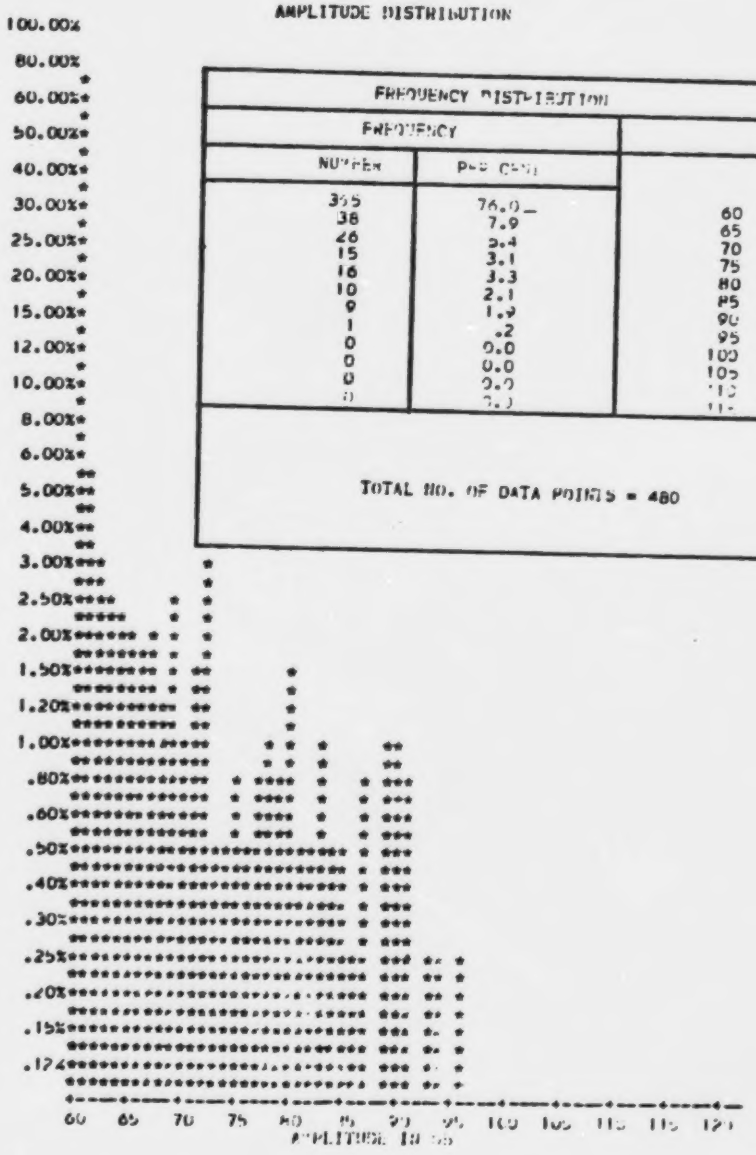
    DATA LOGGED :13 JUNE 1979            DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : SURCA
 SERIAL NUMBER : 1213                          JOB CODE : 002
      BASELINE : 60 DB                        USER CODE : 0295
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  106227
 TEST DURATION =    7:22:36                STANDBY TIME =    3:43: 7

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 442
PERIOD =  1 MINUTES


TIME          LEQ,A                       %DOSE
HOUR     CURRENT   CUMULATIVE      CURRENT   CUMULATIVE
   1       74.1       74.1          1.370       1.37
   2       61.0       70.1           .224       1.59
   3       77.0       73.2          2.059       3.65
   4       60.6       71.5           .217       3.87
   5       74.3       71.9          1.242       5.11
   6       75.2       72.6          1.601      •6.71
   7       70.6       72.3           .826       7.54
   8       64.4       72.1           .132       7.67
MIN. COMP. =  60 DB               MAX. COMP. =  96 DB
ARITH. MEAN =    64 DB
STD. DEVIATION =    4.[illegible]
VARIANCE = [illegible]
```

(53)



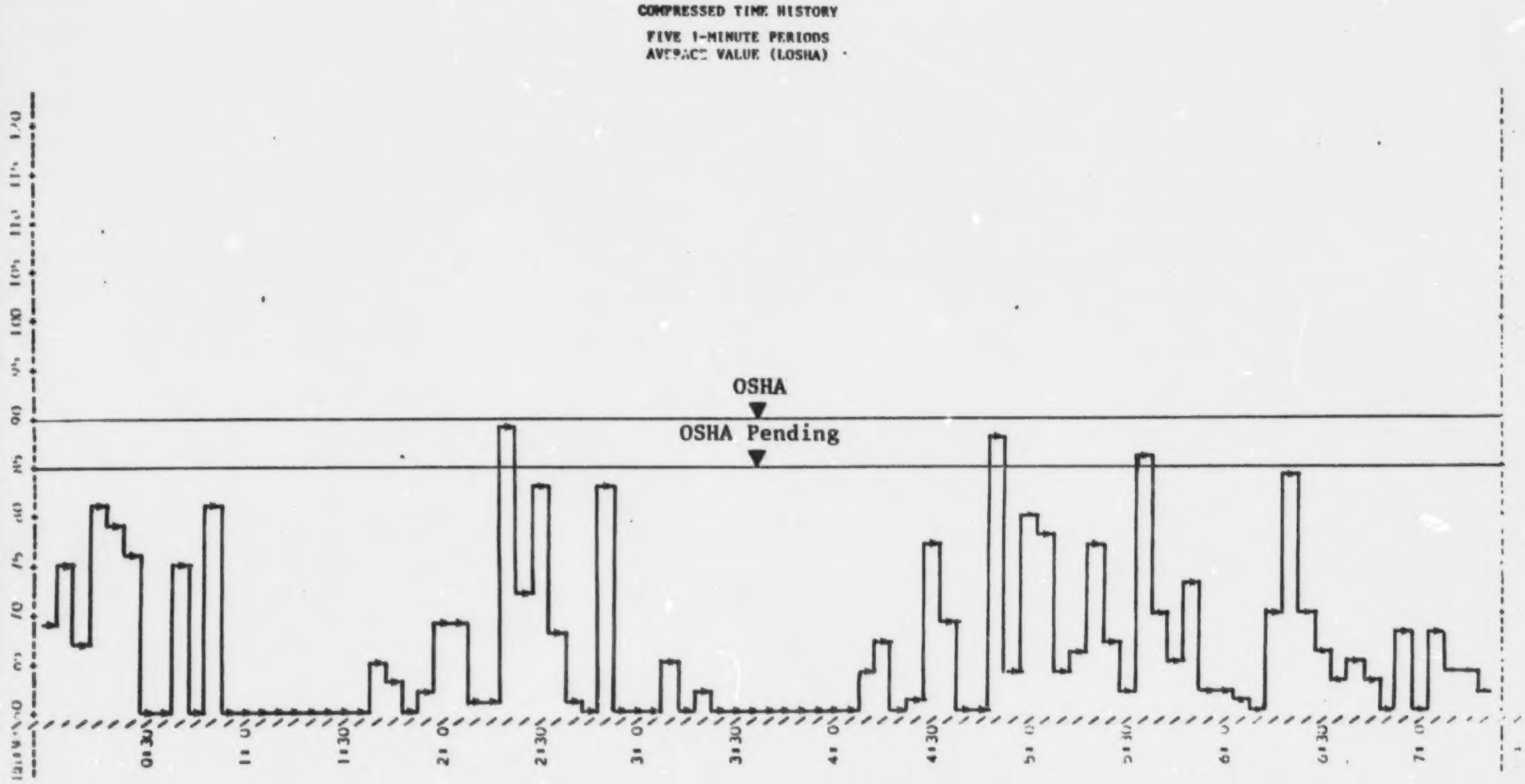
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
365	76.0	60 TO 64
38	7.9	65 TO 69
26	5.4	70 TO 74
15	3.1	75 TO 79
16	3.3	80 TO 84
10	2.1	85 TO 89
9	1.9	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 442

(53)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

Mechanic

(54)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1218   60   64    4     1
  26010     110393  459
  67  60  67  74  60  86  90  91  92  82  60  74  69  64  76  72
  67  70  62  79  69  73  78  63  71  64  75  69  60  61  74  74
  78  76  76  79  80  72  74  62  62  60  66  63  80  60  63  80
  89  87  90  81  66  60  61  66  75  60  61  60  72  81  92  84
  85  85  64  82  85  85  85  85  84  81  82  86  86  77  94  87
  73  60  63  65  60  62  62  67  64  60  60  63  60  61  60  64
  61  60  86  60  60  60  60  60  61  60  60  60  61  61  62  60
  60  60  60  60  60  60  60  67  60  63  62  60  60  60  63  60
  60  60  60  68  69  66  60  66  71  79  70  73  65  60  60  82
  71  64  65  73  63  60  77  62  61  65  60  60  60  66  78  63
  71  66  62  61  60  72  77  64  67  73  70  63  65  60  60  60
  60  74  85  84  60  60  60  60  67  64  60  60  60  60  60  60
  65  69  71  60  60  60  60  60  60  69  84  79  58  64  60  60
  60  62  61  66  60  60  64  63  62  60  60  64  62  60  60  66
  60  60  60  60  60  60  60  61  62  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  63  75  60  60  71  65  69  71  73
  61  67  68  63  60  61  60  61  87  91  96  83  72  67  62  60
  63  84  90  89  84  60  60  60  60  60  60  60  62  62  61  61
  62  61  62  73  83  80  62  83  64  69  65  82  63  60  60  64
  68  60  67  61  71  60  60  60  60  61  60  60  60  60  60  60
  60  61  60  60  60  60  60  60  60  63  60  60  66  60  65  60
  63  68  60  60  75  65  60  61. 60  60  62  60  60  61  61  60
  63  60  60  60  67  80  61  81  79  70  60  60  63  61  60  60
  60  63  60  60  60  60  62  62  63  62  61  60  63  63  62  63
  60  61  60  60  60  60  60  60  71  60  60  62  60  60  60  60
  60  60  71  64  60  60  60  60  60  61  60  60  60  60  60  60
  60  60  60  60  70  71  65  61  82  70  75  83  80  61  64  60
  60  60  61  70  60  60  66  60  60  60  66  60  61  60  60  60
  65  66  69  67  71  61  64  64  67  62  68  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF


ENTER LOG DATE (DD/MM/YR) : 05/07/79

ENTER SITE CODE (5 CHARS) : SUFOA
ENTER USER CODE (4 CHARS) : 0645
 ENTER JOB CODE (3 CHARS) : 012



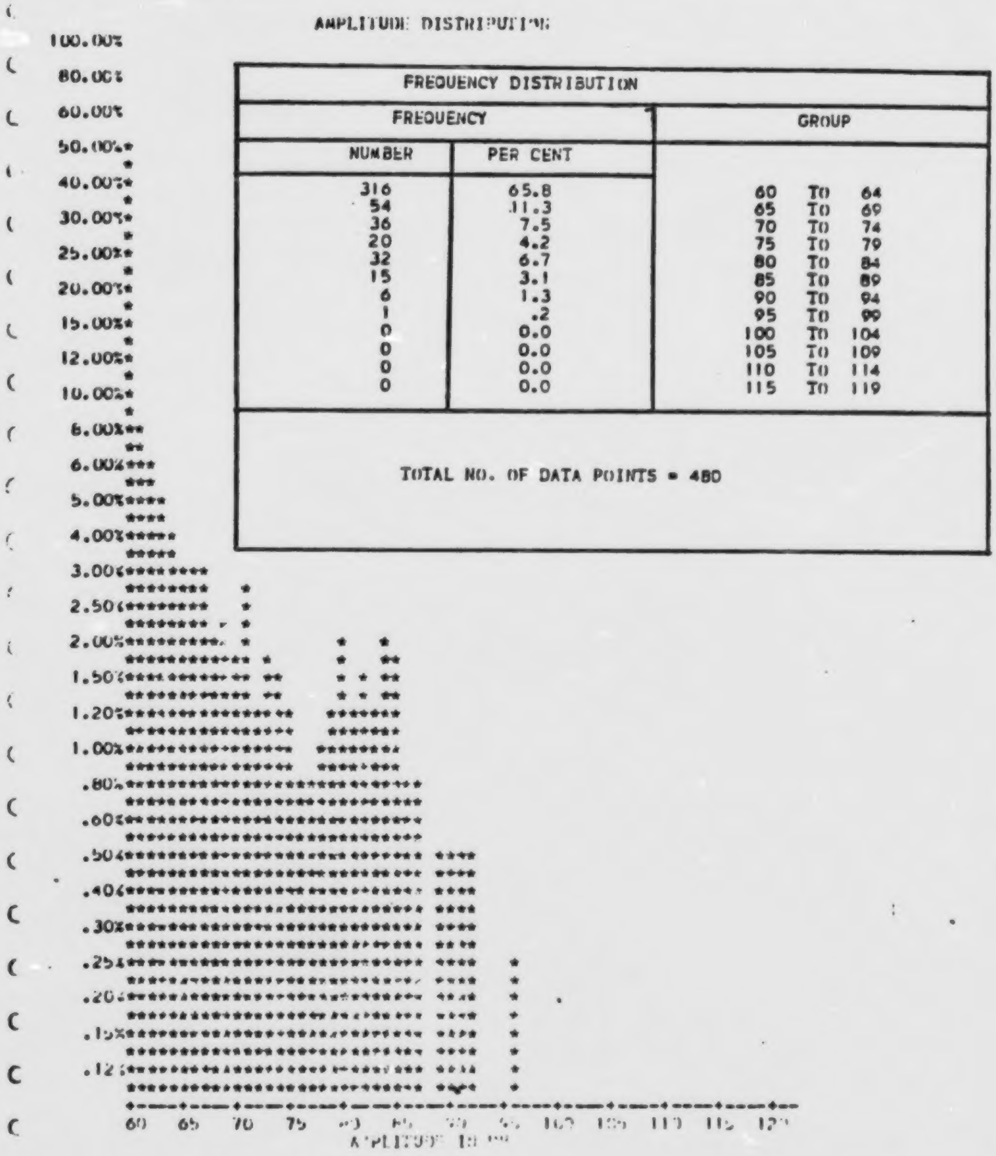
   DATA LOGGED : 5 JULY 1979            DATA ANALYZED : 29  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : SUFOA
 SERIAL NUMBER : 1218                        JOB CODE : 012
      BASELINE : 60 DB                      USER CODE : 0645
 DYNAMIC RANGE : 54 DB                      THRESHOLD :  60 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  110393
 TEST DURATION =    7:39:58               STANDBY TIME =    1:55:42


            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 60 DB
   NUMBER OF COMPUTATIONS = 459
 PERIOD =  1 MINUTES


 TIME          LOSHA                    %DOSE
 HOUR    CURRENT  CUMULATIVE     CURRENT  CUMULATIV
    1      77.6       77.6         2.242      2.24
    2      77.2       77.4         2.127      4.37
    3      73.1       75.7          .791      5.16
    4      65.1       74.1          .395      5.55
    5      77.1       74.8         2.093      7.64
    6      66.1       73.9          [illegible]      [illegible]
    7      62.6       74.1          [illegible]      [illegible]
    8      69.9       72.9          .554      8.89
 MIN. COMP. =  60 DB             MAX. COMP. = [illegible]
 ARITHMETIC MEAN = [illegible]
 STD. DEVIATION = [illegible]
 AVERAGE = 64 DB
```

(54)



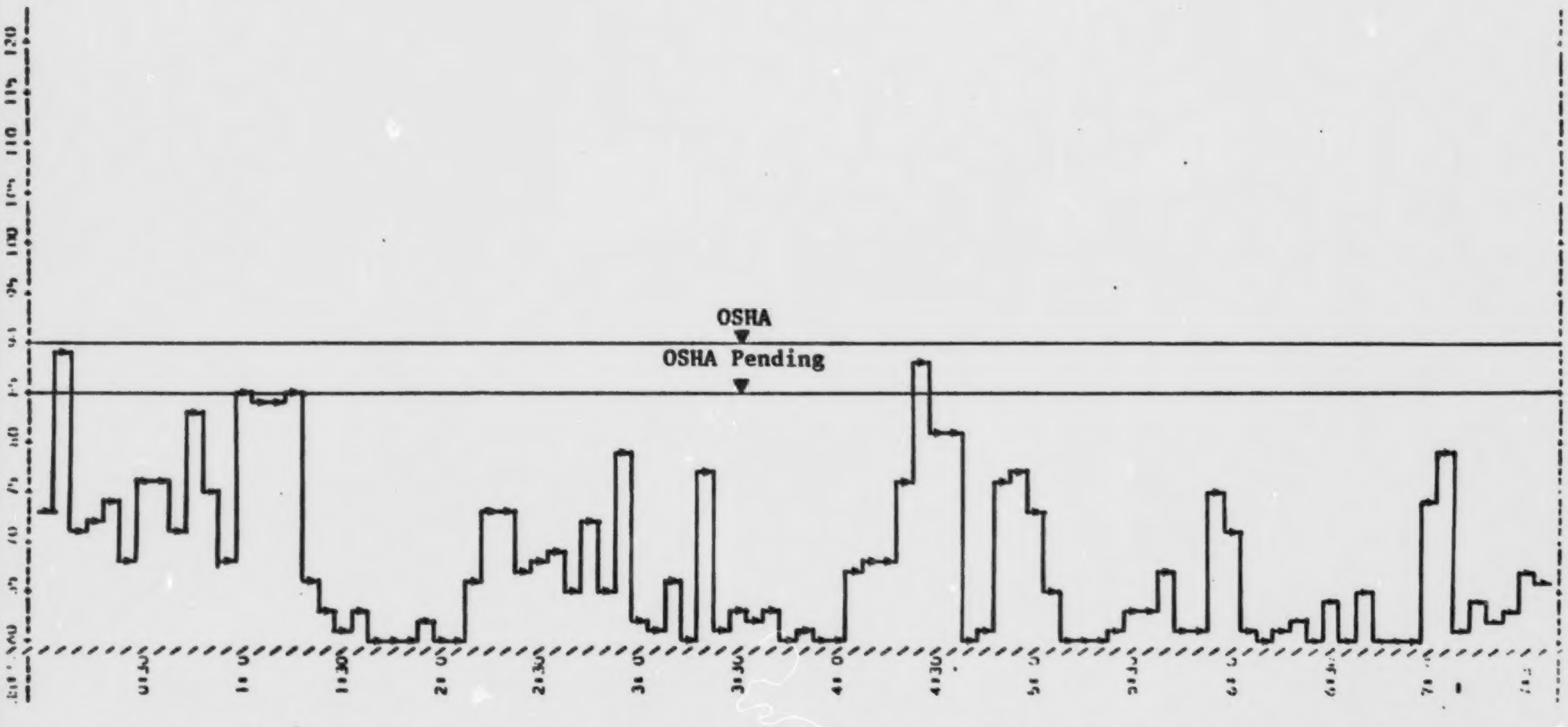
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
316	65.8	60 TO 64
54	11.3	65 TO 69
36	7.5	70 TO 74
20	4.2	75 TO 79
32	6.7	80 TO 84
15	3.1	85 TO 89
6	1.3	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 459

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(54)

(55)

Welder

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1217   60   64    4     1
   36198       95337   397
  63  68  65  60  60  61  60  60  60  60  60  60  60  64  60  62
  62  75  72  76  66  69  66  69  62  64  63  60  71  62  64  65
  66  60  68  70  69  72  73  63  61  61  64  69  74  67  70  66
  71  72  70  68  71  71  68  81  60  61  60  60  60  67  66  60
  64  66  83  79  77  71  68  67  72  64  69  84  79  73  76  72
  70  72  70  70  70  75  63  60  60  60  60  60  62  60  60  60
  60  60  61  60  60  60  60  60  60  61  60  60  60  66  62  65
  72  68  62  61  73  60  66  68  68  86  81  73  75  61  75  69
  72  70  61  65  61  60  70  63  77  66  78  68  61  62  62  67
  66  80  68  70  70  68  79  77  63  61  61  74  68  83  82  82
  83  68  63  60  61  60  62  60  60  60  61  67  60  60  64  62
  60  60  60  60  60  60  60  61  60  60  60  60  60  61  67  67
  71  68  63  65  60  60  65  60  60  61  63  71  60  61  60  60
  60  60  65  64  61  60  60  63  60  60  60  60  60  60  60  60
  60  60  60  71  75  79  79  86  87  85  85  85  90  71  90  86
  66  85  84  73  88  90  86  83  80  72  61  77  73  74  77  71
  70  76  76  76  75  71  68  79  78  79  63  65  81  60  69  80
  64  71  73  81  73  62  60  70  63  68  67  60  60  64  65  60
  60  63  65  71  63  65 .68  68  70  63  65  71  68  68  65  60
  60  73  82  82  83  81  60  64  63  65  60  60  60  60  60  64
  65  62  63  62  63  62  60  64  72  82  79  75  69  70  70  71
  60  60  68  63  60  60  61  62  60  60  60  60  60  71  72  62
  61  67  60  64  64  69  76  74  76  67  60  72  62  73  75  74
  60  60  60  60  62  60  60  60  60  60  60  60  60  61  60  61
  62  68  78  72  70  70  61  67  65  62  64  63  67  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  6C  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (MO/DY/YR) : 05/07/79
ENTER SITE CODE (5 CHARS) : SUFGA
ENTER USER CODE (4 CHARS) : 0766
 ENTER JOB CODE (3 CHARS) : 044

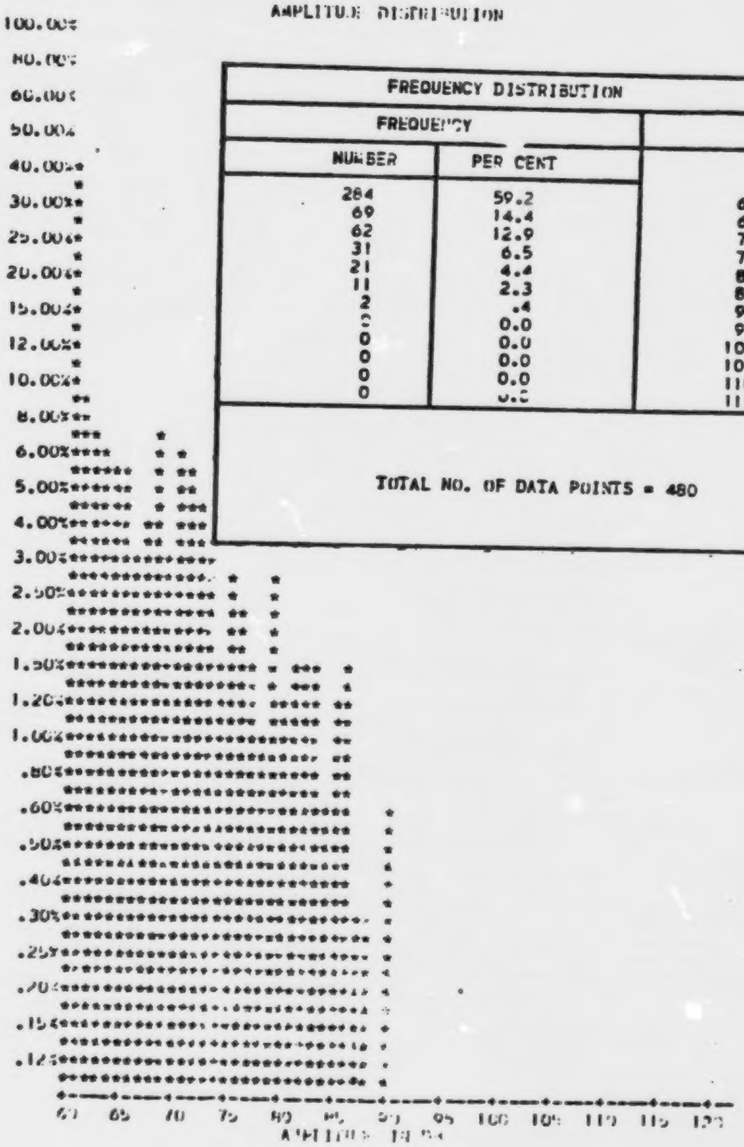

   DATA LOGGED : 5 JULY 1979           DATA ANALYZED : 29  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : SUFGA
 SERIAL NUMBER : 1217                        JOB CODE : 044
      BASELINE : 60 DB                      USER CODE : 0766
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  60 DB
 SAMPLING RATE :  4/SEC                TOTAL SAMPLES =   95337
 TEST DURATION =   6:37:14               STANDBY TIME =   2:30:49

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 397*
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
  1       67.6       67.6           .563        .56
  2       69.5       68.6           .732       1.30
  3       72.2       70.0          1.060       2.36
  4       73.7       71.2          1.310       3.67
  5       76.0       72.4          1.806       5.47
  6       70.2       72.1           .798       6.27
  7       67.2       71.8           .325       6.59
MIN. COMP. =  60 DB               MAX. COMP. =  
ARITHMETIC MEAN =  66 DB
STD. DEVIATION =    7 DB
VARIANCE = 47 DB
```

(55)

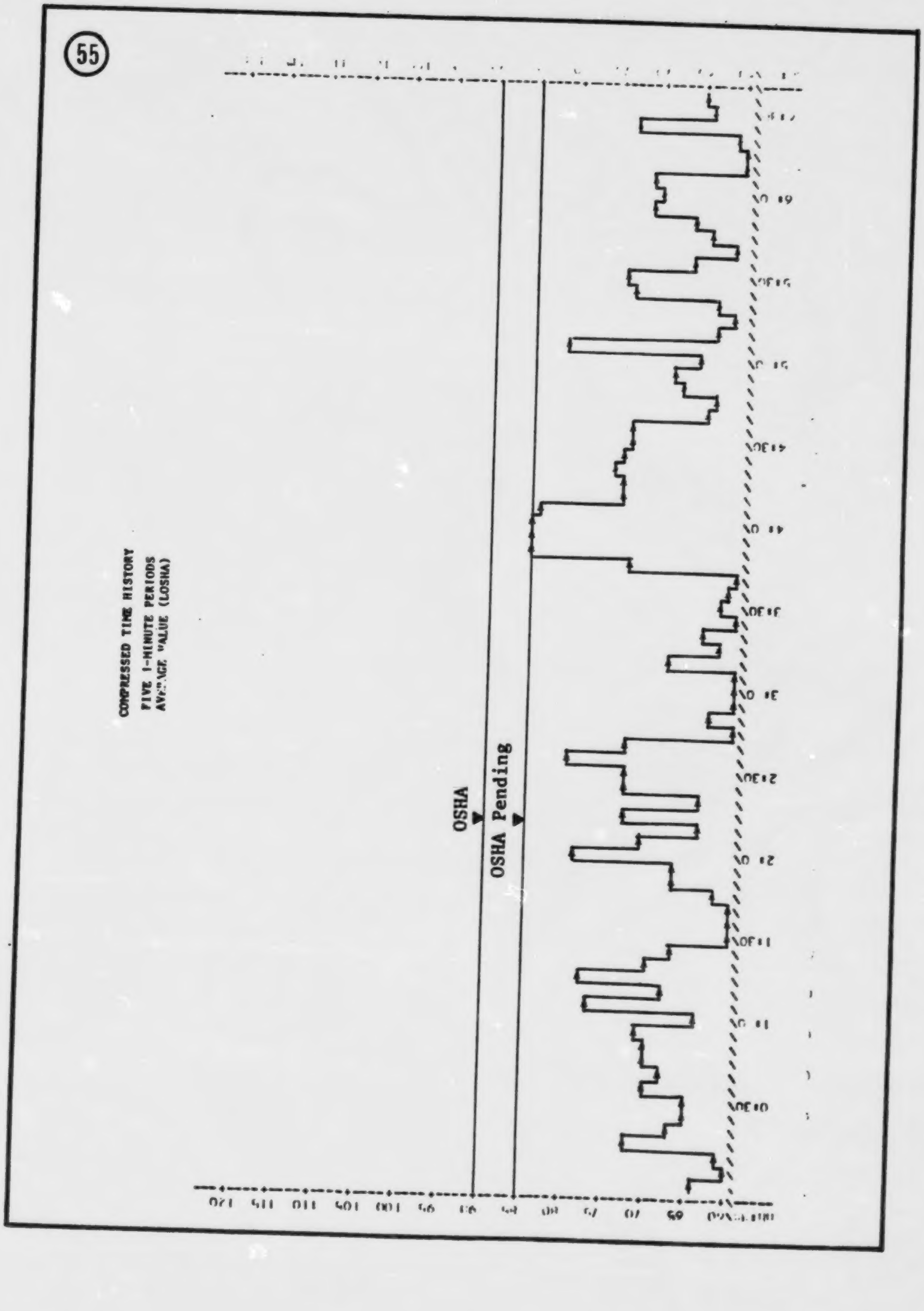


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
284	59.2	60 TO 64
69	14.4	65 TO 69
62	12.9	70 TO 74
31	6.5	75 TO 79
21	4.4	80 TO 84
11	2.3	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 397


(55)
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11:0
11:30
12:0
12:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0

Welder (56)

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

  1  26  85  1221   60   64    4    1
  52815    107692   448
 70  60  60  60  60  60  60  61  60  60  63  60  64  60  60  60
 60  60  60  71  61  61  60  68  60  61  60  60  60  61  60  60
 60  60  60  60  60  60  60  60  60  66  60  60  60  60  60  60
 60  60  61  60  60  60  60  60  60  60  60  60  60  60  60  64
 64  60  61  60  60  60  74  77  82  60  60  60  60  60  60  63
 60  60  60  60  71  82  75  63  61  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61
 63  60  60  60  60  60  60  61  60  61  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  64  60  60  60  60
 60  60  61  66  60  60  60  60  60  60  60  60  60  60  60  60
 60  68  60  60  60  60  60  60  65  60  60  60  60  60  60  60
 60  64  60  60  61  60  60  69  61  60  60  66  63  62  72  63
 60  61  60  63  62  63  60  60  72  65  62  60  60  60  60  60
 60  60  65  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  63  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  61  60  62  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  62  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  78
 67  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  69  60  68  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  70  60  60  69  60  60  67  60
 65  60  60  60  60  60  60  60  60  60  60  60  60  60  68  60
 60  60  62  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 13/06/79
ENTER SITE CODE (5 CHARS) : PISHO
ENTER USER CODE (4 CHARS) : 0525
 ENTER JOB CODE (3 CHARS) : 004

   DATA LOGGED :13 JUNE 1979          DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                SITE CODE : PISHO
 SERIAL NUMBER : 1221                      JOB CODE : 004
      BASELINE : 60 DB                    USER CODE : 0525
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  107692
 TEST DURATION =   7:28:43             STANDBY TIME =   3:40: 3

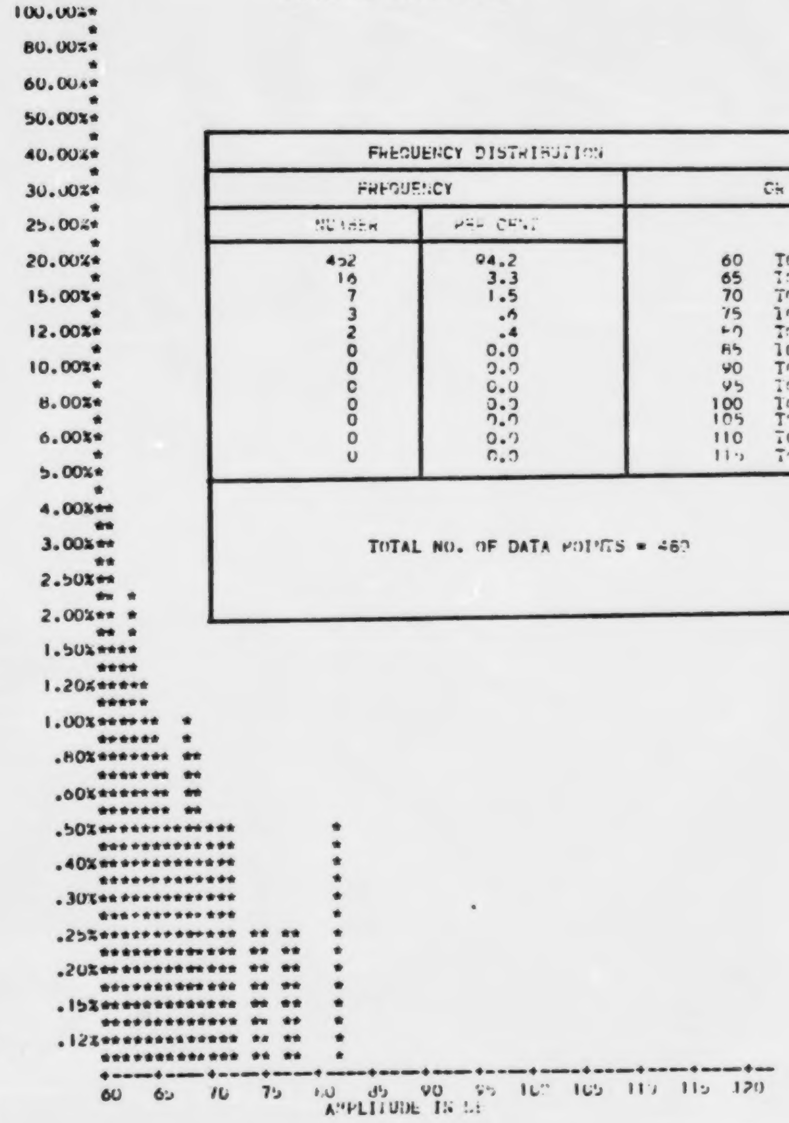
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 65 DB
  NUMBER OF COMPUTATIONS = 448
PERIOD =  1 MINUTES

TIME          LOSHA                        %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1      61.3      61.3              .235       .23
   2      65.6      63.8              .423       .66
   3      60.7      62.9              .215       .87
   4      61.9      62.6              .253      1.13
   5      60.1      62.2              .192      1.32
   6      61.4      62.1              .244      1.56
   7      61.6      62.0              .244      1.81
   8      60.0      61.9              .091      1.90
MIN. COMP. =  60 DB                MAX. COMP. =  82 DB
ARITHMETIC MEAN =  60 DB
STD. DEVIATION =   3 DB
VARIANCE =  9 DB
```

(56)

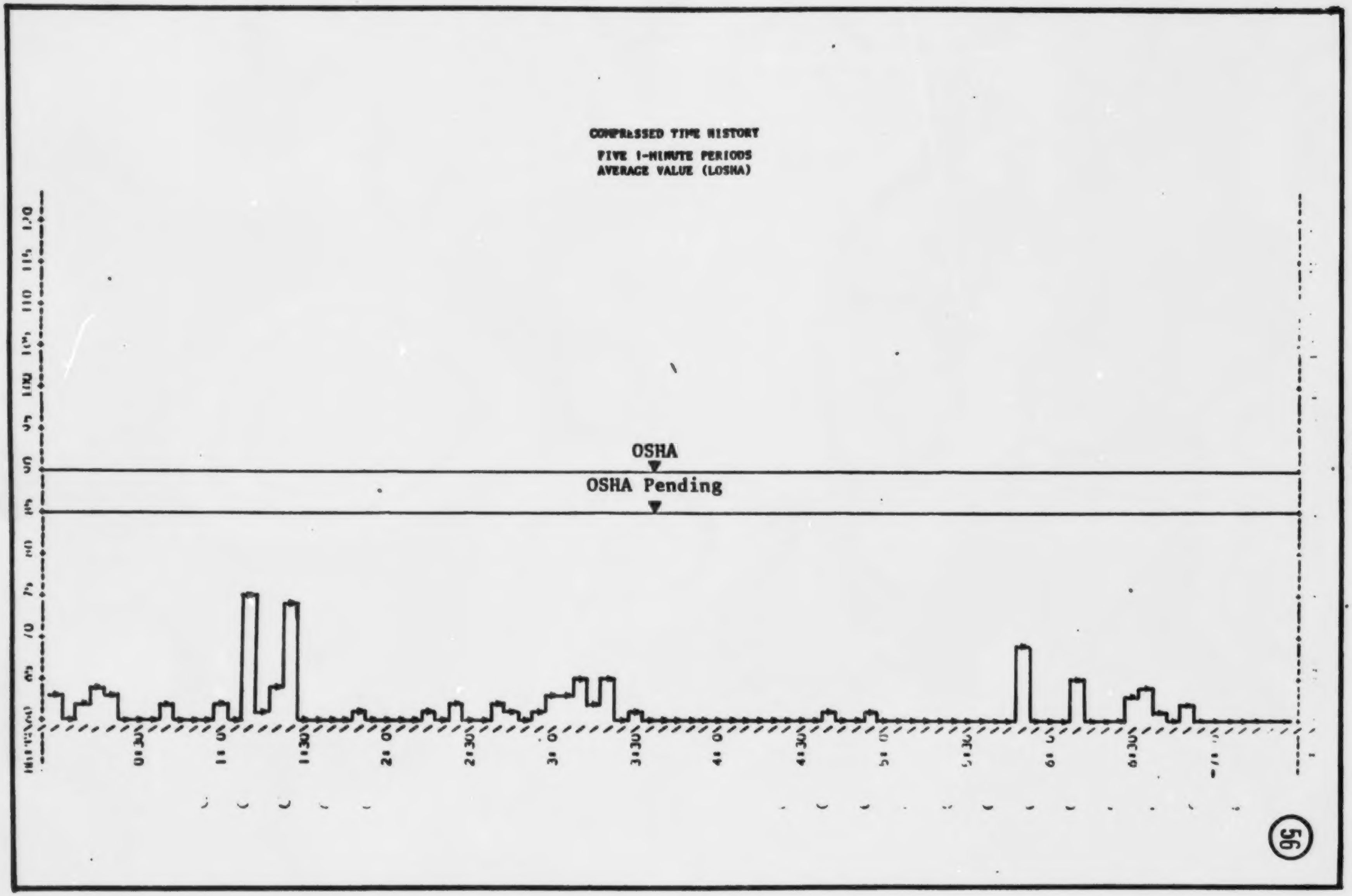
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
452	94.2	60 TO 64
16	3.3	65 TO 69
7	1.5	70 TO 74
3	.6	75 TO 79
2	.4	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 448


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
(56)

(57) **Helper**

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
 1  26  80  1221   60   64    4    1
  35635    112716  480
 75  76  71  67  65  73  73  63  64  76  74  72  62  71  62  69
 67  72  80  79  64  81  69  69  69  75  61  61  70  80  69  71
 68  69  70  69  62  78  83  82  76  88 100  72  62  60  62  78
 71  63  66  74  77  71  66  71  75  70  69  66  64  60  78  83
 77  81  83  81  82  78  66  71  66  77  62  63  63  84  85  85
 84  84  71  62  62  84  79  81  81  84  63  80  73  73  73  66
 79  79  69  60  72  84  63  69  80  82  75  76  63  69  62  76
 78  78  75  78  84  69  60  60  60  60  60  60  60  60  60  60
 60  71  64  65  66  63  72  66  69  75  82  71  70  82  79  82
 60  84  61  87  87  78  81  83  70  68  65  76  71  84  72  83
 61  82  84  82  81  83  82  80  81  75  74  71  83  65  60  60
 62  63  72  71  75  74  71  67  63  80  79  71  73  75  82  79
 78  86  74  72  71  76  80  75  84  76  86  84  62  75  62  75
 77  71  60  60  62  70  67  63  66  71  73  80  74  62  78  77
 85  82  72  65  60  71  72  80  60  60  60  61  60  60  60  60
 60  60  60  60  60  60  60  60  63  63  60  63  67  63  60  66
 60  64  60  60  60  76  84  82  65  84  77  67  77  89  72  76
 65  86  80  75  71  63  68  92  72  74 101  64  73  72  78  83
 64  85  87  80  61  76  60  65  62  64  70  60  61  63  60  71
 65  60  65  60  61  69  74  66  65  63  62  63  61  76  70  77
 78  60  61  60  61  60  63  64  62  62  60  60  63  74  83  80
 78  70  68  64  71  79  79  60  70  69  61  75  73  60  80  89
 65  60  62  72  73  64  76  77  70  60  63  61  63  77  82  72
 61  60  64  60  80  89  87  87  83  61  80  70  65  60  60  60
 60  60  60  64  65  73  60  85  89  85  84  84  84  79  82  81
 69  80  91  92  93  91  90  89  91  91  91  89  88  88  85  71
 74  84  69  77  83  84  81  82  82  85  88  75  79  67  60  66
 61  65  67  63  64  72  81  73  75  70  68  66  60  61  72  68
 71  68  63  61  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  71  71  73  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 05/07/79
ENTER SITE CODE (5 CHARS) : SUFAC
ENTER USER CODE (4 CHARS) : 0691

 ENTER JOB CODE (3 CHARS) : HLP



    DATA LOGGED : 5 JULY 1979            DATA ANALYZED : 29  AUG 1979
         LOGGER : DB-301/26                  SITE CODE : SUFAC
  SERIAL NUMBER : 1221                        JOB CODE : HLP
       BASELINE : 60 DB                      USER CODE : 0691
  DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  112716
  TEST DURATION =   7:49:39               STANDBY TIME =   2:28:28

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 469
PERIOD =  1 MINUTES

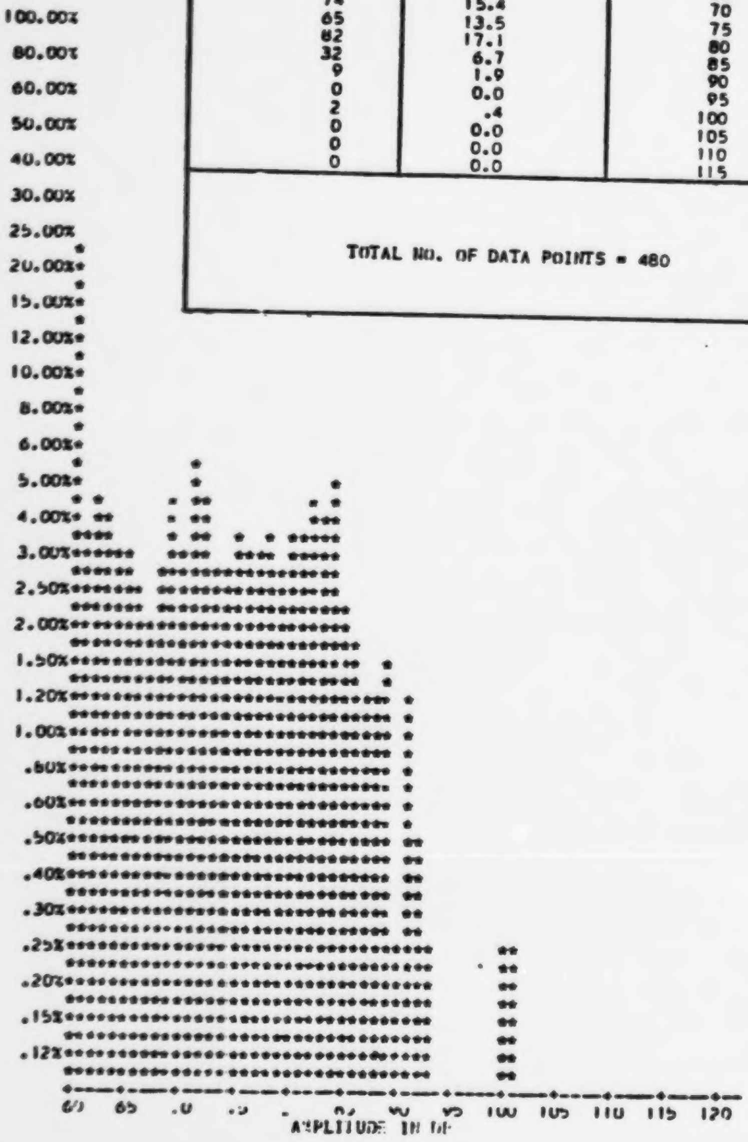

TIME          LOSHA                     %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      77.1      77.1            2.084      2.08
   2      76.9      77.1            2.692      4.78
   3      77.3      77.8            2.156      6.93
   4      75.2      77.3            1.635      8.56
   5      80.2      78.0            3.223     11.78
   6      73.0      77.3            1.184     12.96
   7      83.1      78.5            4.832     17.79
   8      73.7      78.1            1.065     18.86
MIN. COMP. =  60 DB              MAX. COMP. = 101 DB
ARITHMETIC MEAN =  71 DB
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

Amplitude Distribution

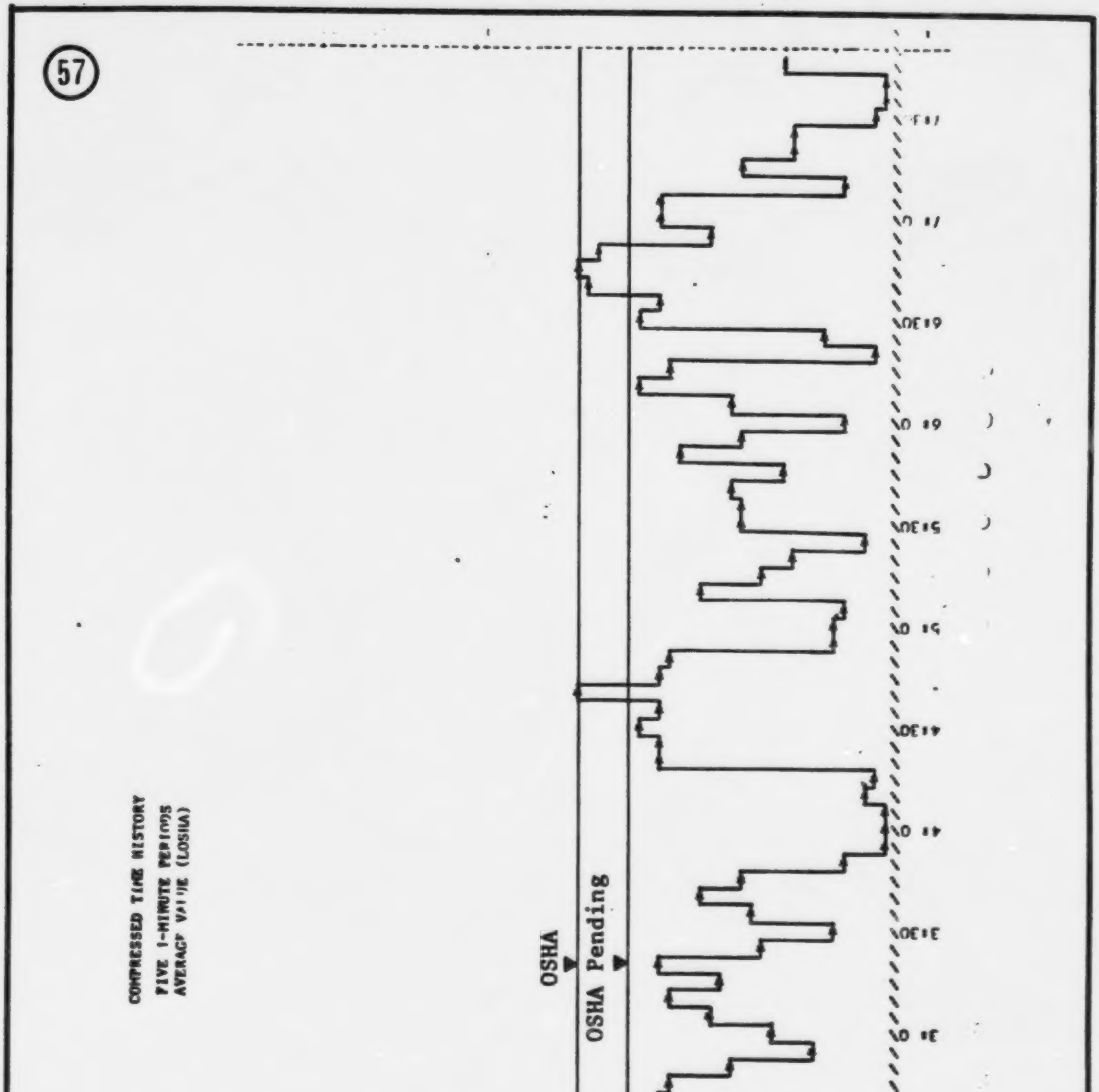
- ㊼

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
157	32.7	60 TO 64
59	12.3	65 TO 69
74	15.4	70 TO 74
65	13.5	75 TO 79
82	17.1	80 TO 84
32	6.7	85 TO 89
9	1.9	90 TO 94
0	0.0	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 469


57
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

(58)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"

  1  26  80  1219   60   64    4    1                                Labourer
   69119     115200  480
  73  72  63  77  70  73  81  74  69  69  [illegible]  71  [illegible]  68  60  64
  63  69  63  62  60  62  61  60  75  64  62  62  61  60  60  61
  60  60  6   [illegible]  61  61  65  60  61  60  60  64  60  62  65  60
  60  [illegible]  60  70  60  62  77  71  79  78  69  77  78  85  80  75
  70  68  65  67  60  68  61  60  75  92  93  83  96  95  84  62
  64  64  60  60  68  64  68  60  68  62  79  89  87  [illegible]  80  84
  88  89  84  85  85  76  85  94  79  62  77  82  68  72  65  67
  71  67  70  76  62  63  60  61  65  63  62  70  65  62  60  64
  64  66  69  63  60  64  65  61  70  76  74  60  60  60  61  64
  60  60  61  67  67  60  63  67  61  61  64  74  64  76  72  78
  72  72  66  67  62  69  65  70  65  63  71  65  70  66  65  62
  73  67  69  68  74  70  70  73  72  73  73  73  74  65  70  74
  71  80  68  68  69  60  65  65  66  69  69  71  70  68  79  65
  74  75  76  70  72  60  60  60  62  60  60  60  68  60  64  79
  76  67  66  68  70  71  68  67  63  69  60  60  60  60  60  66
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  69  72  68  66  62  70  60  61  60  60  61  61  60
  67  60  60  64  60  60  62  60  60  60  60  62  60  62  60  62
  60  66  61  60  60  60  65  60  60  60  60  63  60  65  60  60
  65  63  61  76  79  77  76  74  64  63  73  68  70  70  72  71
  70  71  74  71  66  61  69  62  67  66  72  68  60  79  78  65
  71  68  75  60  68  66  62  76  76  60  67  62  60  74  60  65
  60  63  60  60  68  71  63  60  76  80  69  67  73  67  63  65
  64  71  74  68  71  68  67  65  68  66  71  69  62  69  65  68
  69  74  70  60  61  60  63  61  60  67  64  65  60  61  60  61
  61  65  60  60  60  60  60  67  67  78  68  70  74  67  63  72
  64  63  63  64  61  66  70  68  62  80  64  66  60  67  63  61
  65  60  60  61  68  74  68  76  78  65  77  69  75  74  72  74
  77  70  70  77  72  73  63  69  78  72  79  86  68  77  77  71
  78  74  74  77  77  75  80  83  77  85  78  78  75  64  65  80
%EOF


ENTER LOG DATE (DD/MM/YR) : 04/07/79
ENTER SITE CODE (5 CHARS) : SURFA
ENTER USER CODE (4 CHARS) : 0606
 ENTER JOB CODE (3 CHARS) : 144


   DATA LOGGED : 4 JULY 1979              DATA ANALYZED : 28  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : SURFA
 SERIAL NUMBER : 1219                            JOB CODE : 144
      BASELINE : 60 DB                          USER CODE : 0606
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =   484/159

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

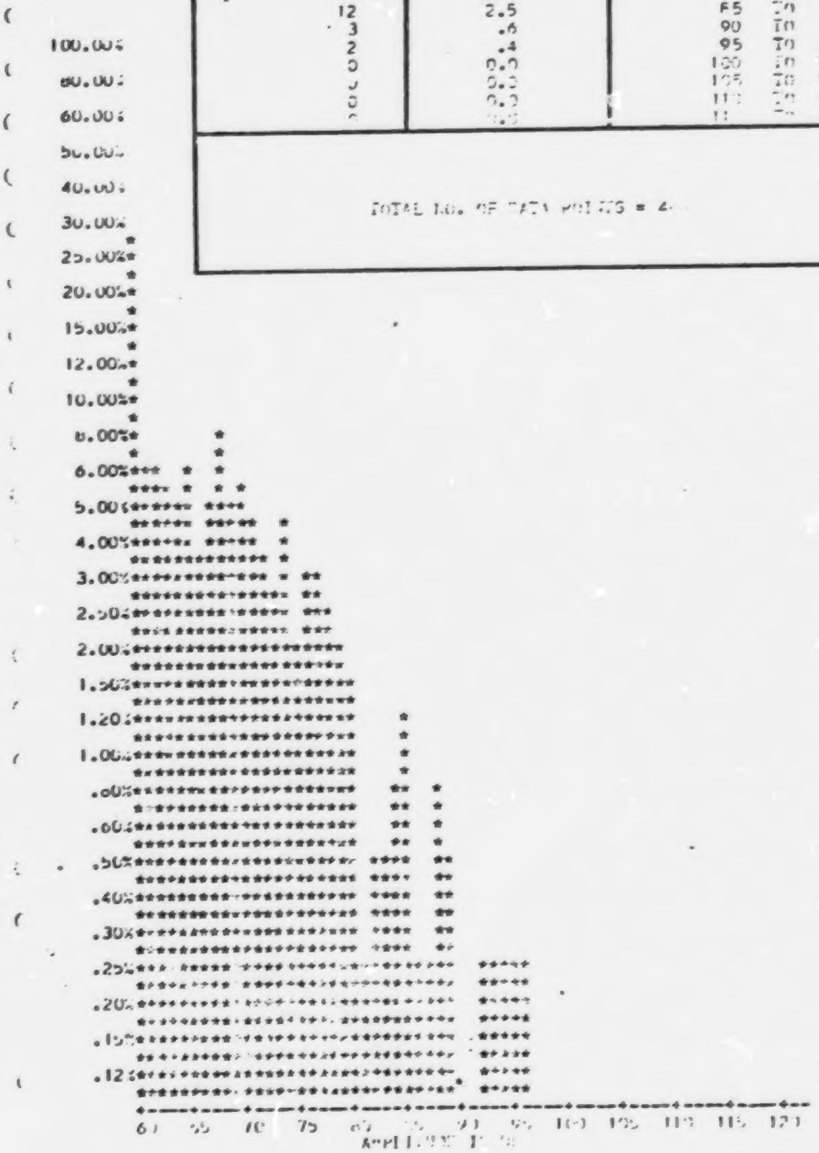
 TIME          LOSHA                           [illegible]
 HOUR     CURRENT   CUMULATIVE         CURRENT    CUMULATIVE
    1       65.8      [illegible]        [illegible]        .67
    2       62.1      7[illegible].2       4.210       4.[illegible]
    3       67.5      76.1         [illegible]       5.43
    4       70.0      75.0          .783       6.21
    5       62.1      73.6         [illegible]       6.47
    6       75.2      7[illegible].2         [illegible]       7.3[illegible]
    7       6[illegible].0      [illegible]        [illegible]       7.[illegible]
    8       74.6      [illegible]        1.47[illegible]       9.37
 MIN. COMP. =  60 DB                MAX. COMP. =  96 DB
 [illegible]
 [illegible]
 [illegible]
```

(58)

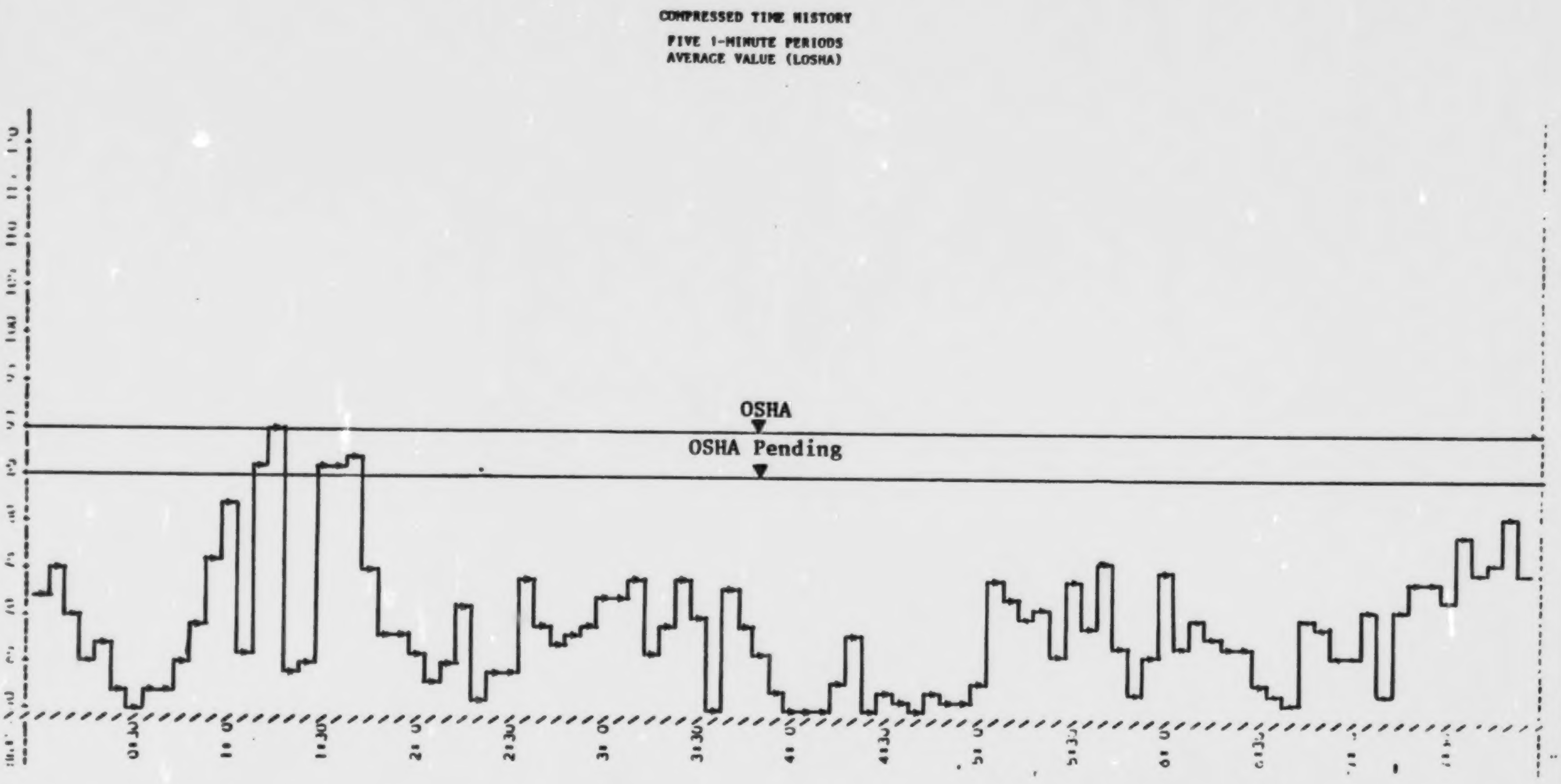
Amplitude Distribution

FREQUENCY DISTRIBUTION		
OCCURRENCES		GROUP
NUMBER	PERCENT	
203	42.3	60 TO 64
111	23.1	65 TO 69
84	17.5	70 TO 74
51	10.6	75 TO 79
14	2.9	80 TO 84
12	2.5	85 TO 89
3	.6	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	11[illegible] TO 1[illegible]

TOTAL NO. OF DATA POINTS = 4[illegible]



Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(58)

(59)

Labourer

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
   1  26  80  1224    60    64     4     1
      296     115200  480
   67  65  60  69  60  70  72  62  64  67  60  61  60  60  60  60
   69  70  64  60  60  61  68  66  64  71  70  60  64  90  77  80
   60  60  60  60  64  67  65  60  71  60  60  60  60  62  62  60
   60  64  60  60  63  66  60  60  60  60  69  66  60  62  64  65
   61  60  60  60  60  60  60  60  61  61  69  66  60  60  63  60
   60  60  60  60  62  60  63  64  62  63  63  66  65  60  60  65
   60  60  60  60  65  60  60  62  62  60  74  69  67  60  60  61
   60  60  60  60  60  60  60  60  60  60  60  61  60  60  60  62
   61  60  60  60  60  62  66  69  73  61  60  70  60  61  60  63
   60  60  60  60  60  60  60  62  60  60  60  66  85  60  60  60
   60  60  61  60  78  60  60  66  60  60  60  60  60  60  61  60
   60  60  82  73  60  60  60  66  61  71  61  60  60  60  60  60
   60  60  66  60  64  62  62  60  60  70  63  75  60  73  70  81
   63  60  71  64  64  69  76  89 100  90  67  60  60  64  68  61
   75  71  75  68  67  69  71  73  71  60  61  60  60  60  75  60
   60  60  60  60  60  60  60  60  60  80  60  65  60  60  60  62
   60  60  60  60  60  60  64  72  60  66  68  66  66  62  61  71
   78  78  72  64  80  70  66  60  76  71  72  72  60  66  60  67
   67  63  72  63  67  66  68  69  60  64  62  73  65  67  62  60
   60  60  60  63  65  60  65  63  60  65  70  80  72  60  72  70
   66  68  65  61  62  60  60  60  60  60  60  67  60  61  83  83
   84  75  69  78  72  74  75  63  64  60  73  72  62  60  60  60
   72  60  61  76  82  69  64, 60  68  76  62  66  61  71  78  74
   62  68  64  64  61  60  61  70  60  60  66  60  63  68  60  65
   69  68  60  60  60  60  60  60  60  60  60  62  61  60  60  63
   60  60  64  60  60  72  72  67  71  60  66  60  71  72  70  63
   65  71  60  60  60  60  61  67  60  60  60  60  60  62  62  66
   60  60  60  62  60  60  68  69  79  73  72  79  95  86  85  85
   63  78  81  63  74  73  78  60  72  73  70  63  79  60  63  78
   76  69  60  68  75  73  68  66  73  73  67  71  75  67  65  75
.00%00N



ENTER LOG DATE (DD/MM/YR) : 05/07/79
ENTER SITE CODE (5 CHARS) : SURFA

ENTER USER CODE (4 CHARS) : 0506
 ENTER JOB CODE (3 CHARS) : 144



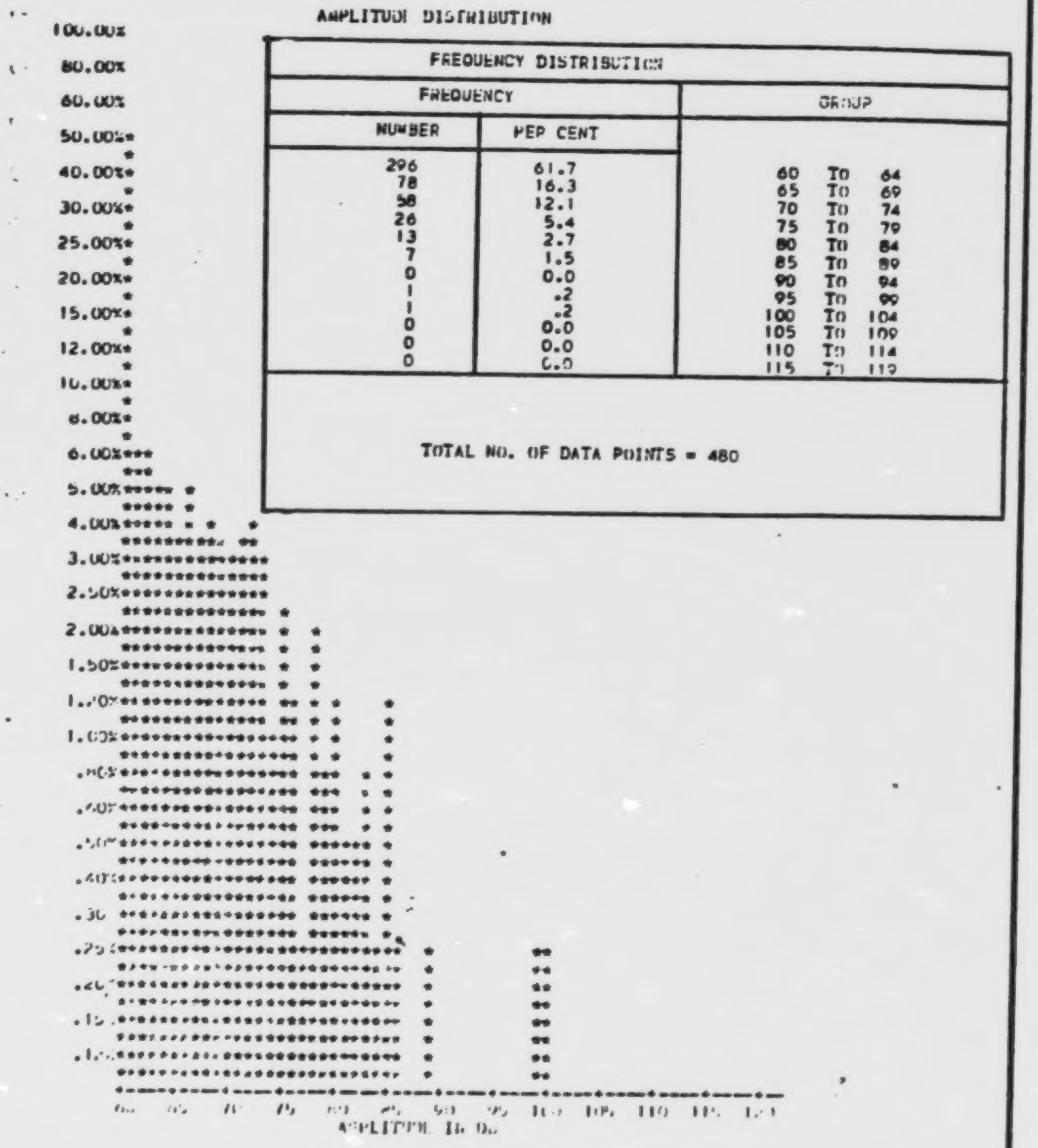
   DATA LOGGED : 5 JULY 1979             DATA ANALYZED : 21  DEC 1979
        LOGGER : DB-301/26                   SITE CODE : SURFA
 SERIAL NUMBER : 1224                         JOB CODE : 144
      BASELINE : 60 DB                       USER CODE : 0506
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   0: 1:14

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           LOSHA                      %DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       68.4      68.4             .626       .63
   2       62.5      66.0             .275       .90
   3       66.3      66.1             .469      1.37
   4       77.7      71.1            2.277      3.65
   5       67.4      70.5             .543      4.19
   6       70.6      70.5             .850      5.04
   7       66.2      70.0             .462      5.50
   8       73.8      70.8            1.323      6.82
MIN. COMP. =  60 DB              MAX. COMP. = 100 DB
ARITHMETIC MEAN =  65 DB
STD. DEVIATION =   [illegible]
VARIANCE = 47 DB
```

⑤⑨



AMPLITUDE DISTRIBUTION

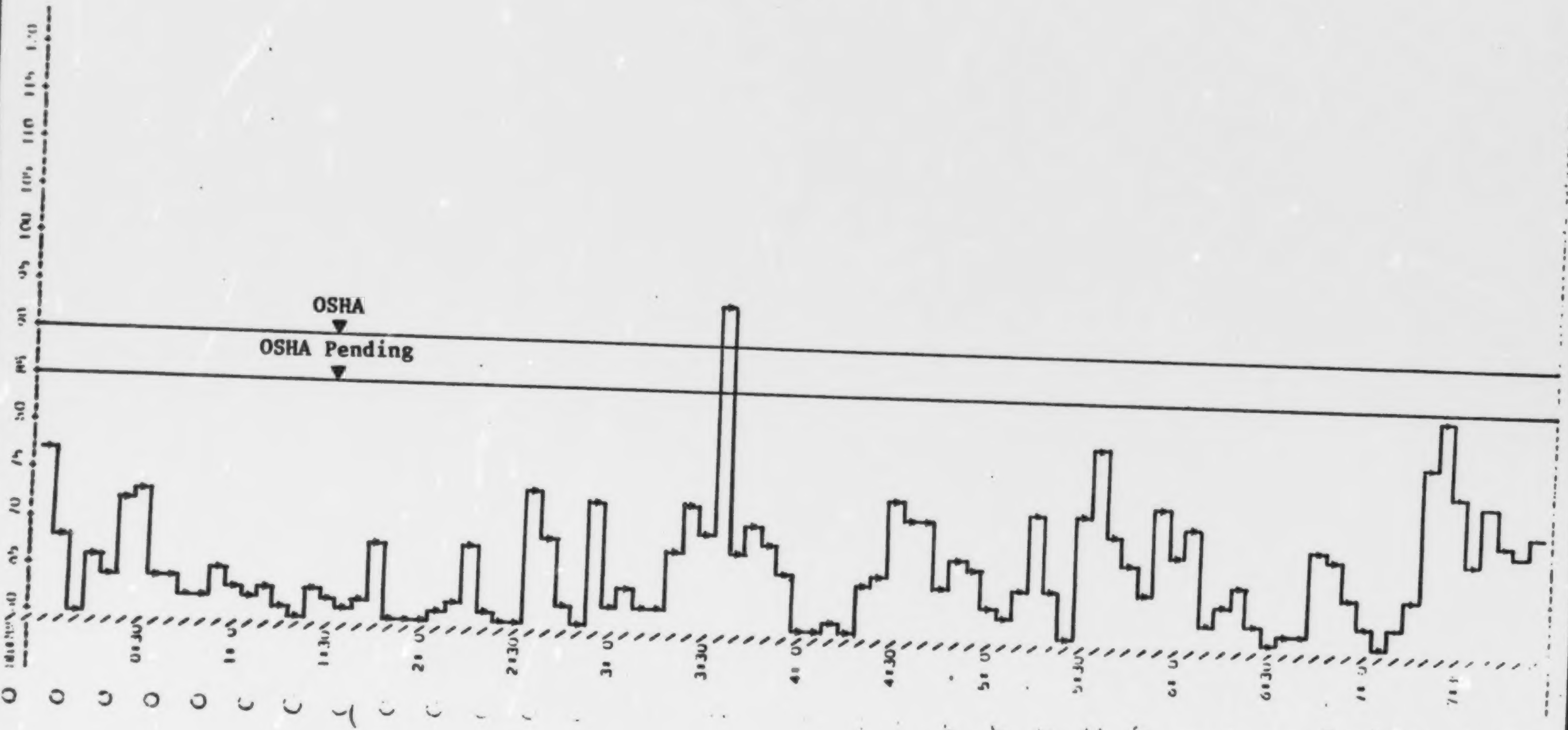
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
296	61.7	60 TO 64
78	16.3	65 TO 69
58	12.1	70 TO 74
26	5.4	75 TO 79
13	2.7	80 TO 84
7	1.5	85 TO 89
0	0.0	90 TO 94
1	.2	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(59)

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(60)

Mech. Leader

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1225    60    64     4     1
   14977     111538  464
  70  68  75  75  60  60  78  79  61  60  60  61  63  62  63  70
  60  84  65  74  64  60  66  71  75  75  76  75  60  70  72  61
  73  60  67  60  60  64  63  70  73  81  79  75  72  71  70  70
  65  64  78  68  67  77  77  64  72  76  66  65  73  75  64  65
  76  67  66  60  64  60  64  72  67  60  60  60  73  71  62  60
  60  62  65  70  73  74  82  81  80  82  65  61  64  65  62  60
  62  64  60  65  62  61  64  62  68  65  68  69  62  60  71  70
  60  69  70  64  60  67  72  61  60  60  63  71  67  71  74  75
  75  63  77  72  79  78  67  71  75  70  75  76  62  62  77  78
  60  75  74  74  71  79  76  90  94  97  80  93  78  76  74  69
  65  84  74  75  68  72  60  61  60  77  73  60  63  66  69  63
  70  67  68  74  77  71  75  77  62  62  67  61  67  65  60  60
  62  66  66  65  81  65  60  67  60  60  60  61  60  60  60  60
  60  60  62  60  60  60  60  64  60  62  71  67  60  71  66  60
  60  60  63  60  66  70  63  63  60  60  60  60  60  60  60  60
  60  63  70  62  61  60  60  62  66  74  71  72  75  70  60  73
  86  76  66  72  60  71  75  71  74  79  68  85  89  98  95  83
  67  70  60  63  73  90  93  93  79  60  60  60  60  72  74  78
  63  76  69  71  64  67  74  86  88  77  75  88  58  65  71  77
  60  67  73  68  69  73  75  71  60  60  60  66  63  60  69  66
  63  74  77  71  65  60  62  60  60  61  64  71  63  63  61  67
  65  65  63  71  77  60  68  70  80  73  75  72  71  73  64  66
  67  68  63  68  63  69  64  60  62  74  80  75  77  72  72  66
  73  70  61  60  60  60  60  60  70  70  66  62  60  67  60  60
  61  61  60  60  60  60  60  60  60  60  60  74  63  73  61  60
  60  60  60  60  62  60  60  60  60  60  65  61  62  60  67  62
  60  61  69  66  70  72  73  74  71  79  76  62  84  66  72  68
  67  64  62  74  79  80  70  66  79  79  78  79  64  74  65  71
  63  60  61  63  71  67  66  72  66  64  66  60  63  61  60  63
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 05/07
?
ENTER USER CODE (8 CHARS) : 2341
 ENTER JOB CODE (3 CHARS) : X02


    DATA LOGGED : 5 JULY 1900              DATA ANALYZED : 29  AUG 1979
          LOGGER : DB-301/26                     SITE CODE : 79
   SERIAL NUMBER : 1225                          JOB CODE : X02
        BASELINE : 60 DB                        USER CODE : 2341
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  60 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  111538
   TEST DURATION =    7:44:44                STANDBY TIME =    1: 2:24

             TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS .
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB, 8 HOURS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 80 DB
     NUMBER OF COMPUTATIONS = 464
   PERIOD =  1 MINUTES

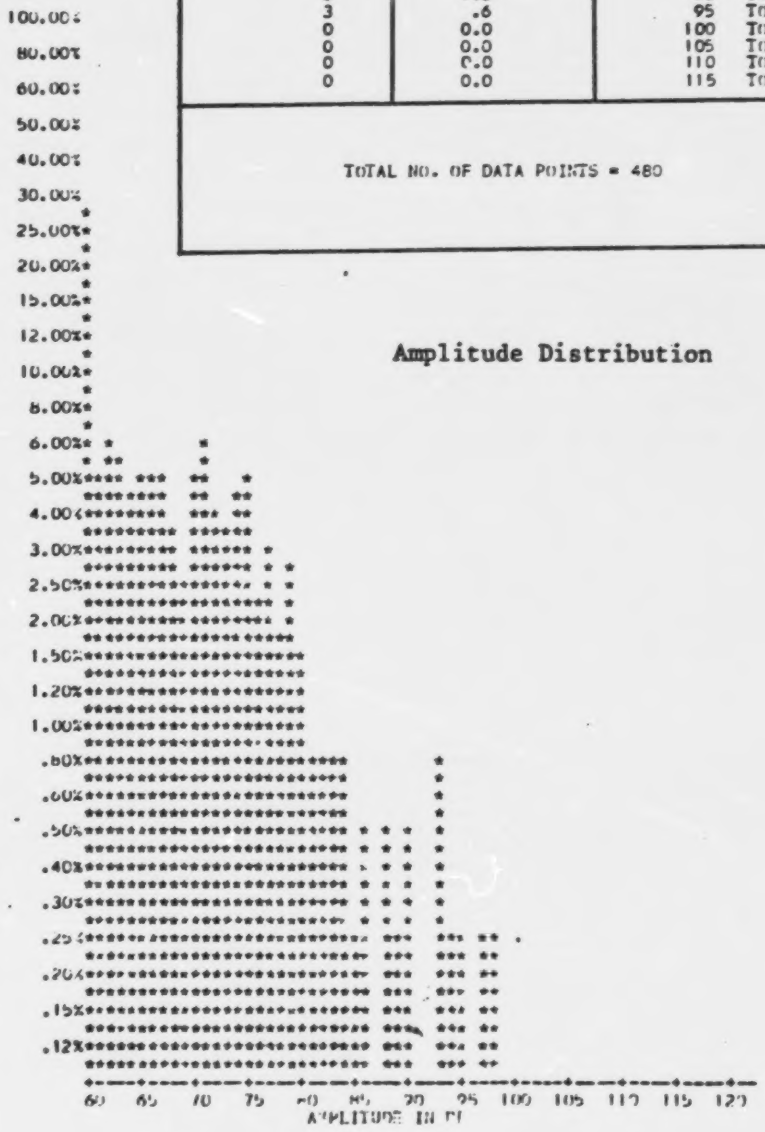
   TIME          LOSHA                     %DOSE
   HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
     1       71.7      71.7           .984      .98
     2       69.5      70.7           .733     1.72
     3       78.9      74.5          2.670     4.39
     4       65.9      73.1           .443     4.83
     5       80.9      75.5          3.508     8.34
     6       69.0      74.8           .565     9.06
     7       66.4      74.0           .471     9.55
     8       72.8      73.9           [illegible]      10.40
   [illegible]                               [illegible]
   [illegible]
   [illegible]
   [illegible]
```

⑥⓪

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
210	43.8	60 TO 64
85	17.7	65 TO 69
94	19.6	70 TO 74
58	12.1	75 TO 79
18	3.8	80 TO 84
6	1.3	85 TO 89
6	1.3	90 TO 94
3	.6	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

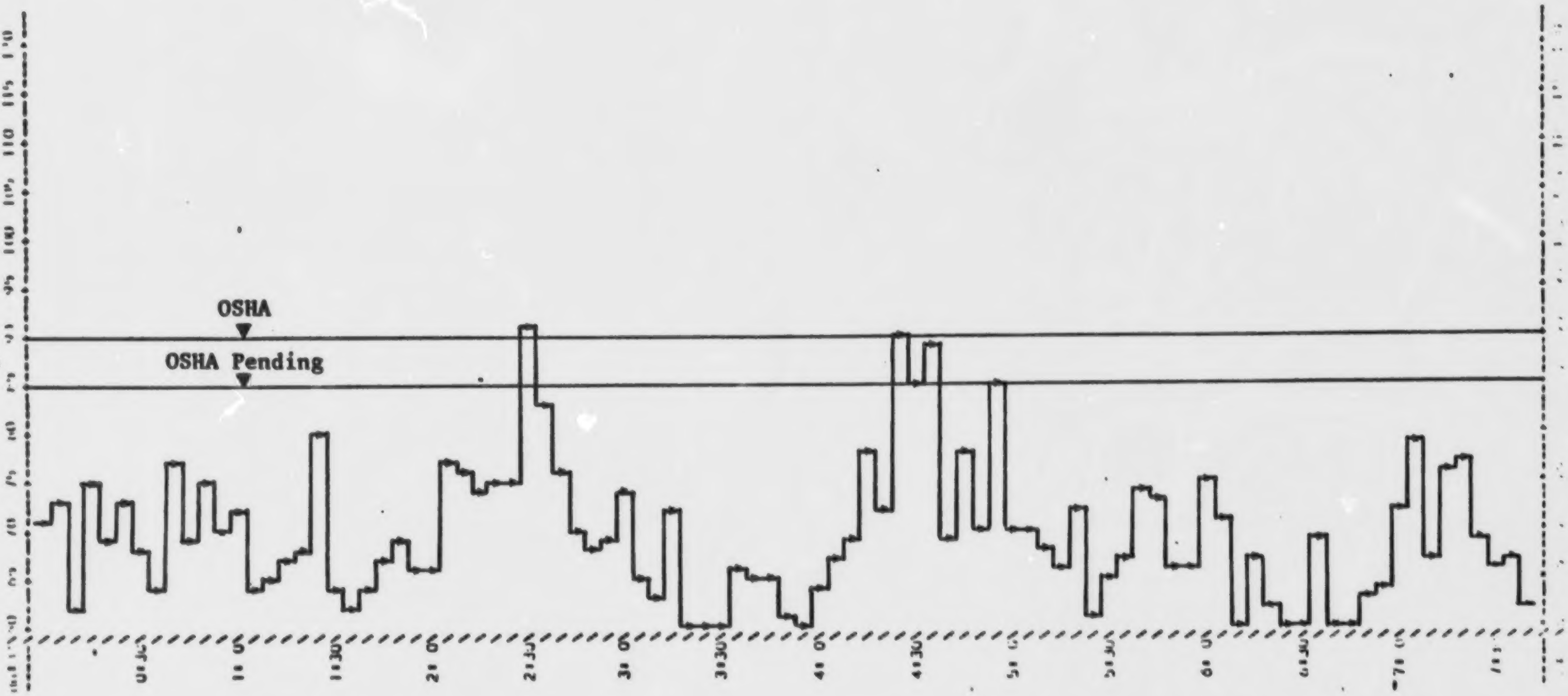
Amplitude Distribution



Number of computations = 464

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(60)

(61)

Euclid Driver

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1216   60   64    4    1
   12835    115200  480
   82  91  81  89  83  88  89  87  86  89  81  86  90  81  89  81
   60  60  60  60  60  60  60  60  83  83  78  90  90  86  89  91
   86  86  89  87  89  76  74  86  81  77  88  90  85  88  92  91
   86  87  88  89  84  76  84  83  78  87  92  84  91  91  87  85
   89  80  89  85  86  84  74  83  79  79  92  90  85  92  92  86
   86  91  85  89  84  85  60  70  83  82  86  91  82  89  92  87
   83  86  89  86  89  89  62  82  77  80  81  87  91  81  88  91
   91  85  85  86  89  88  83  84  81  60  78  83  78  89  90  84
   91  91  86  87  87  87  69  85  82  80  81  79  78  63  65  83
   60  60  60  62  60  60  60  62  61  60  63  61  60  69  82  90
   87  85  91  91  86  90  87  89  89  88  76  82  82  79  81  90
   88  84  89  91  89  87  85  87  85  89  86  85  84  75  80  80
   80  91  82  88  91  89  83  61  76  82  73  87  86  86  89  85
   88  85  84  83  79  87  93  86  90  91  80  91  86  90  87  88
   90  87  84  87  82  75  90  94  89  90  93  91  87  90  89  89
   90  64  89  83  77  81  87  93  74  60  60  62  76  60  60  62
   69  66  71  62  62  86  60  60  62  60  60  60  60  60  60  66
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  85  80  87  92  93  89  86  89  89  90  87  86  80  77  81
   92  90  88  93  93  80  70  87  89  89  90  90  89  89  74  61
   77  65  67  93  87  89  92  93  89  89  88  85  89  88  81  60
   60  60  60  60  60  65  81  84  80  78  81  74  90  92  86  92
   94  92  88  72  65  86  91  90  90  87  86  81  91  73  89  94
   85  86  93  94  88  91  85  91  92  88  84  84  60  60  83  78
   74  91  93  86  91  95  92  86  89  90  91  90  83  76  72  78
   73  74  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  79  83  80  75  68  92  83  91  93  93  86  86  90  90
   90  65  85  69  68  82  81  83  93  90  88  92  91  89  87  90
   86  89  89  90  83  89  81  84  81  91  92  86  86  92  94  78
   81  87  88  94  86  93  80  80  81  75  91  91  86  91  90  92
*EOF



ENTER LOG DATE (MM/DD/YR) : 05/07/79
ENTER SITE CODE (5 CHARS) : 10DA1
ENTER USER CODE (4 CHARS) : 0054
 ENTER JOB CODE (3 CHARS) : 141



    DATA LOGGED : 5 JULY 1979           DATA ANALYZED : 29  AUG 1979
         LOGGER : DI-301/26                 SITE CODE : 10DA1
  SERIAL NUMBER : 1216                       JOB CODE : 141
       BASELINE : 60 DB                     USER CODE : 0054
  DYNAMIC RANGE : 64 DB                     THRESHOLD : 80 DB
  SAMPLING RATE :  4/SEC              TOTAL SAMPLES =  115200
 *TEST DURATION =   8: 0: 0            STANDBY TIME =   0:53:28

             TIME HISTORY ANALYSIS

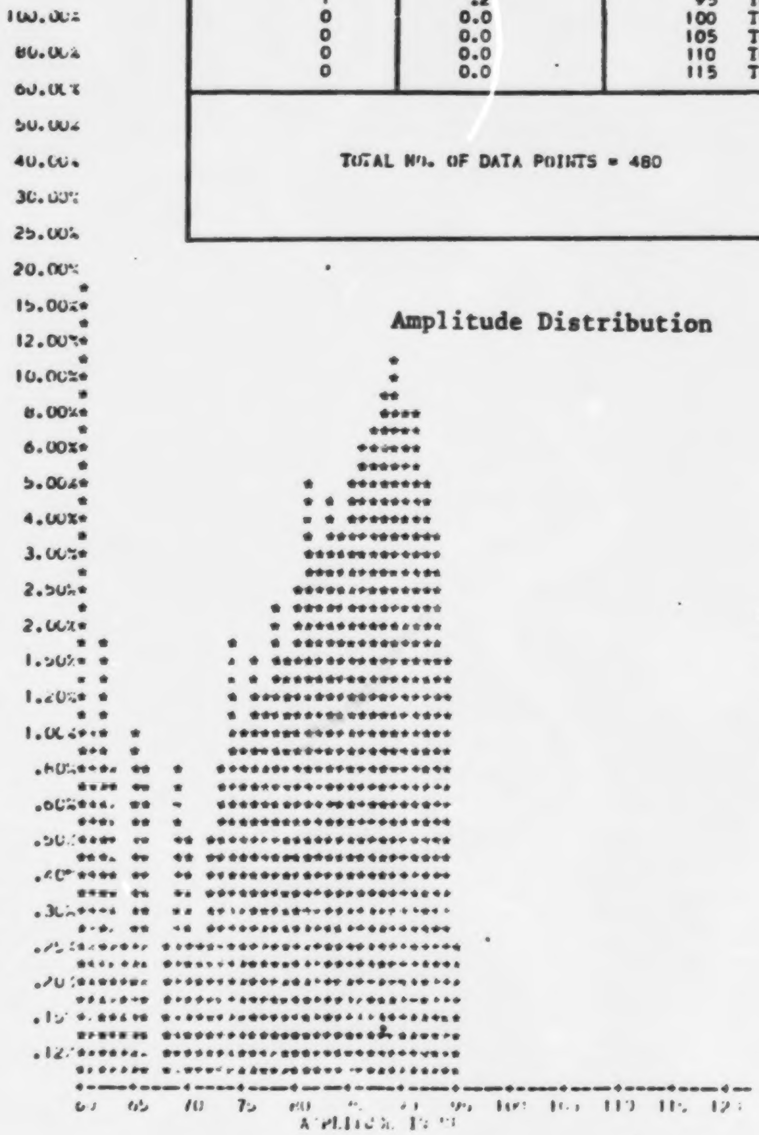
  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES

  TIME           LOSHA                          DOSE
  HOUR    CURRENT   CUMULATIVE          CURRENT    CUMULATIVE
    1       85.9       85.9              7.055        7.06
    2       86.8       86.4              8.051       15.11
    3       84.0       85.7              5.422       20.53
    4       87.2       86.1              8.495       29.02
    5       79.5       85.3              3.368       32.39
    6       86.9       85.6              8.174       40.56
    7       81.4       85.5               .641       [illegible]
    8       84.3       85.0              [illegible]  [illegible]
  MIN. COMP. =  60 DB                  MAX. COMP. =  95 DB
  ARITH. MEAN = [illegible]
  STD. DEVIATION =  11 DB
  VARIANCE =121 DB
```

FREQUENCY DISTRIBUTION (61)

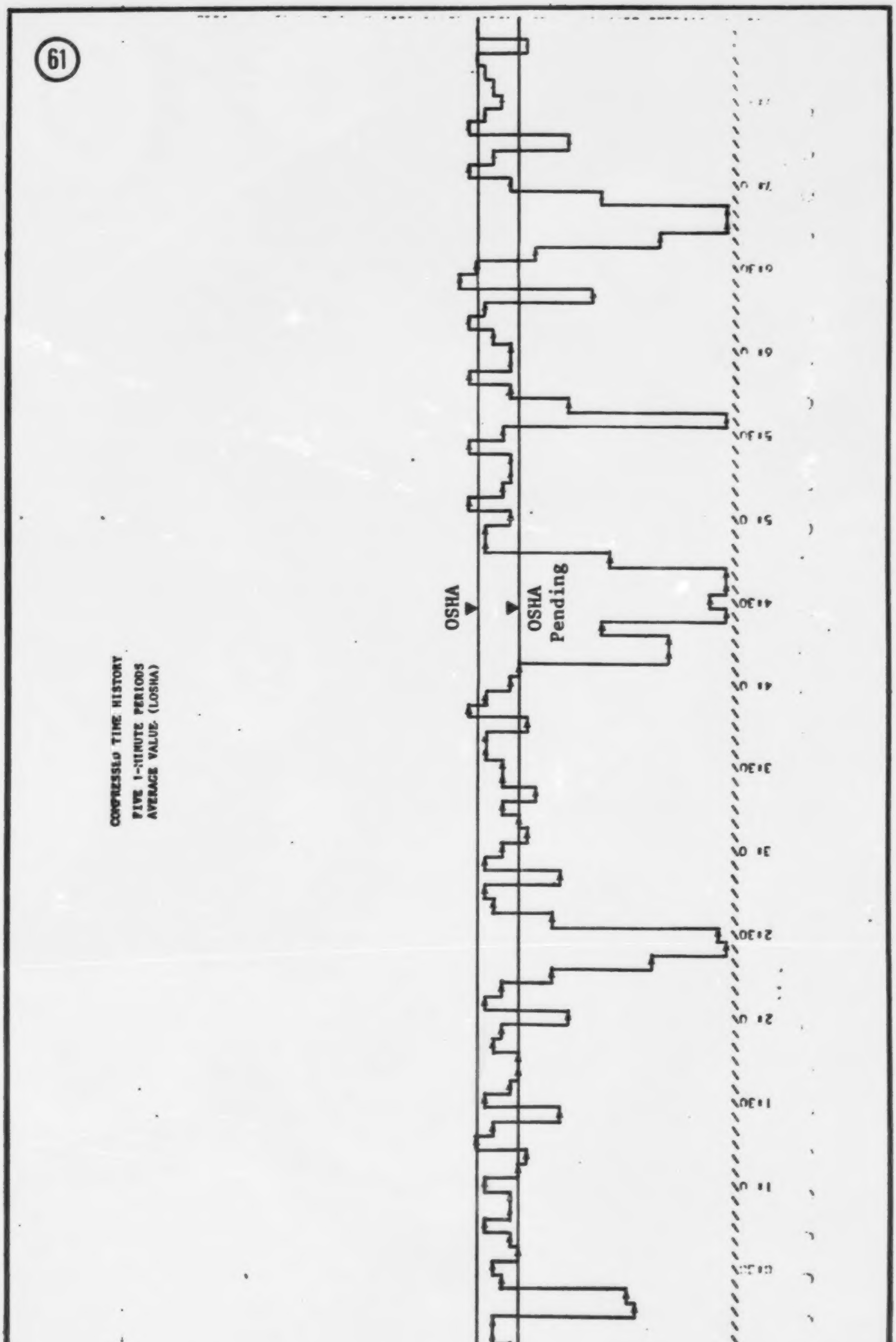
FREQUENCY		GROUP
NUMBER	PER CENT	
87	18.1	60 TO 64
11	2.3	65 TO 69
15	3.1	70 TO 74
30	6.3	75 TO 79
76	15.8	80 TO 84
157	32.7	85 TO 89
103	21.5	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

Number of computations = 480


61
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA
Pending

62

Boom Truck

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  26  60  1.1?   63   64    4    1
  22325    113442   474
 60  88  64  60  73  77  74  68  65  70  67  76  84  84  73  76
 74  65  63  76  73  73  70  71  78  64  65  74  70  80  70  73
 69  70  75  73  70  80  72  67  83  62  72  82  86  76  84  97
 79  80  65  63  64  76  73  76  79  76  76  77  78  81  75  80
 70  74  62  81  84  91  66  86  89  87  90  89  89  85  89  91
 90  89  86  99  89  87  89  86  89  89  89  89  89  85  87  90
 88  86  84  88  76  87  86  76  85  73  83  90  95  84  89  89
 84  86  89  84  77  90  83  87  87  86  81  64  62  80  60  60
 76  80  60  60  60  80  62  62  73  79  65  65  63  72  73  86
 66  65  81  78  83  85  65  67  86  85  83  87  81  83  84  80
 68  75  78  81  86  86 103 103 102 101 102 103 102 102 102 101
102 101  73  80  63  65  73  76  79  67  74  73  76  67  80  88
 74  76  74  71  81  73  84  77  73  86  72  82  79  73  84  76
 91  90  90  92  92  93  93  93  92  92  92  93  92  92  92  82
 77  82  62  81  85  91  92  84  87  83  83  88  86  80  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  84  75  91  82
 60  60  60  60  60  60  60  60  60  60  79  87  85  87  86  79
 63  82  90  87  88  87  89  90  89  90  96  96  96  97  90 101
 65  70  97 100 100 100 102 103 101  89  83  60  68  84  80  80
 60  60  60  70  80  63  60  60  60  65  77  68  60  66  82  80
 68  66  80  72  64  68  65  60  60  60  60  60  60  60  60  85
 63  71  77  85  83  81  75  72  71  72  78  75  80  60  60  80
 75  69  62  79  81  60  60  62  64  80  65  76  80  75  80  74
 60  61  73  66  60  63  61  70  64  80  84  82  81  81  64  60
 60  64  60  60  60  60  60  72  68  63  74  60  79  93  96  94
 96  96  85  82  82  88  72  83  83  97  78  80  77  82  85  80
 81  63  61  81  76  86  62  61  77  87  92  94  92  92  94  87
 77  62  61  64  60  60  64  66  61  61  64  77  65  78  74  63
 60  60  67  60  71  60  60  64  61  74  62  66  60  60  69  66
 69  60  60  61  60  60  68  73  61  72  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 05/07/79

ENTER SITE CODE (5 CHARS) : SURFA

ENTER USER CODE (4 CHARS) : 0749
 ENTER JOB CODE (3 CHARS) : 129


    DATA LOGGED : 5 JULY 1979             DATA ANALYZED : 29  AUG 1979
         LOGGER : DS-301/26                   SITE CODE : SURFA
  SERIAL NUMBER : 1212                         JOB CODE : 129
       BASELINE : 60 DB                       USER CODE : 0749
  DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  113442
  TEST DURATION =   7:54:55                STANDBY TIME =   1:33: 1

              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 474
PERIOD =  1 MINUTES

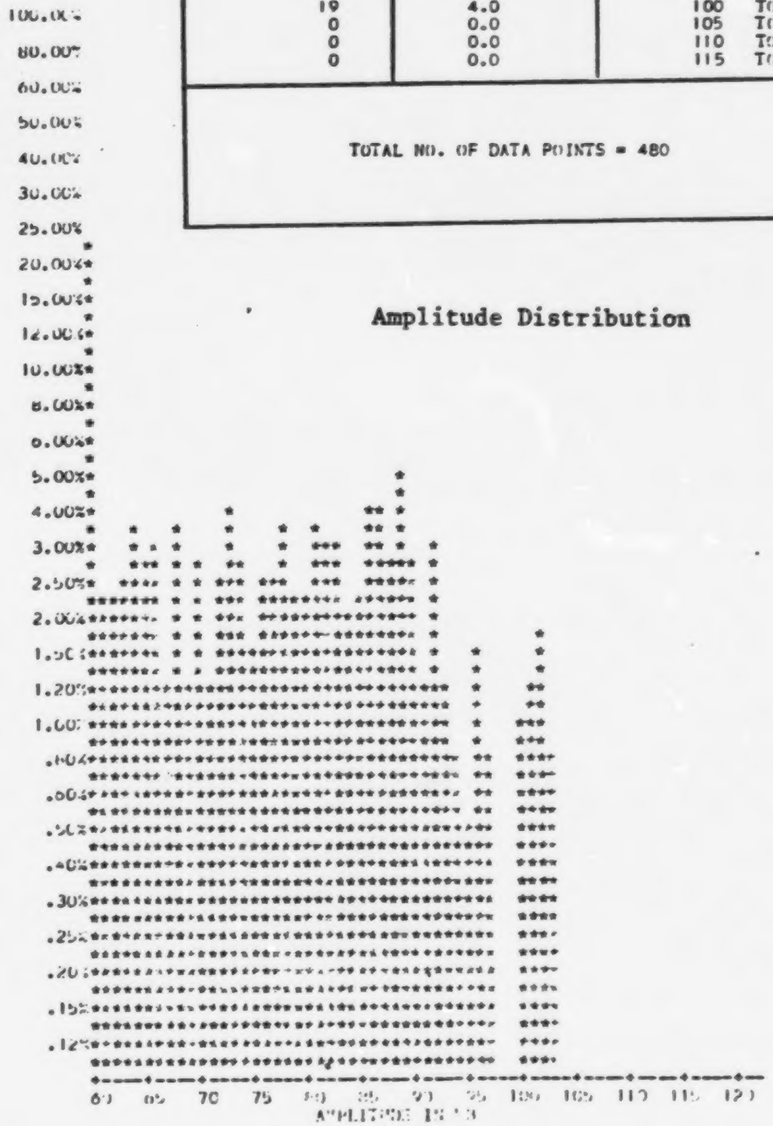

TIME          LOSHA                      %DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
  1        76.4       76.4          1.493       1.493
  2        87.3       83.7          8.956      10.449
  3        91.4       87.3         15.[illegible]   25.7[illegible]
  4        85.1       86.8          6.33[illegible]    31.[illegible]
  5        90.2       87.6         12.77[illegible]    44.[illegible]
  6        77.2       86.5          1.[illegible]     45.[illegible]
  7        81.9        [illegible]          4.[illegible]     [illegible]
  8        77.2        [illegible].4          2.[illegible]     [illegible]
MIN. COMP. =  60 DB               MAX. COMP. = 103 DB
AMBIENT [illegible] = [illegible]
STD. DEVIATION = 12.[illegible]
VARIANCE = [illegible]
```

(62)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
135	28.1	60 TO 64
48	10.0	65 TO 69
53	11.0	70 TO 74
49	10.2	75 TO 79
56	11.7	80 TO 84
73	15.2	85 TO 89
36	7.5	90 TO 94
11	2.3	95 TO 99
19	4.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

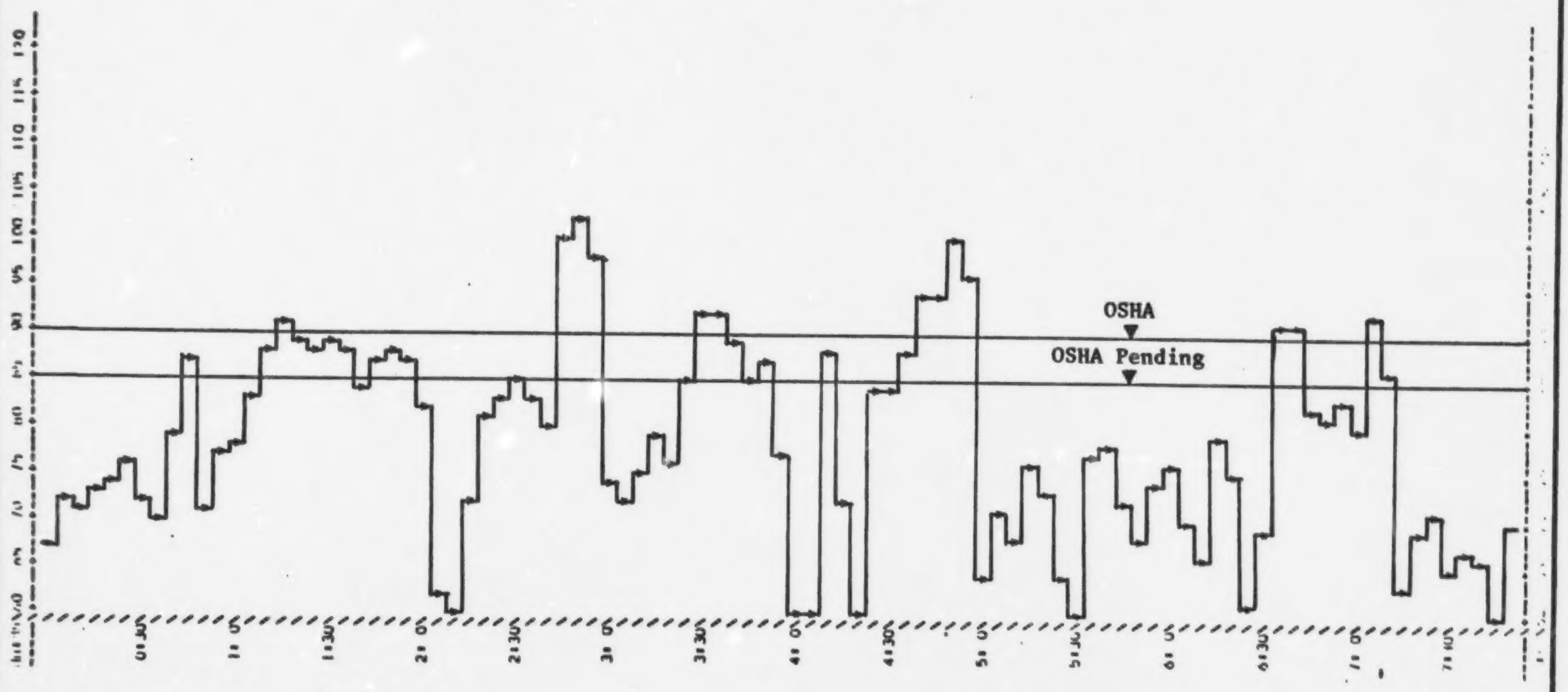
Amplitude Distribution



Number of computations = 474

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(62)

(63)

Heavy Equip.Operator

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  [illegible]  60   64    4    1
   6952     115200  480
  70  64  65  62  77  70  87  85  70  83  88  92  94  93  92  94
  94  93  94  94  94  94  94  94  89  95  93  94  94  94  94  93
  91  79  74  73  75  89  92  92  91  89  91  91  91  91  91  92
  92  93  90  92  93  91  90  91  91  91  92  91  92  92  93  91
  90  88  81  92  92  92  91  92  92  91  92  92  94  94  93  93
  93  93  93  94  92  92  92  90  92  91  92  92  94  93  92  80
  89  92  84  94  93  92  92  92  92  92  91  92  92  92  94  93
  67  90  92  85  94  91  92  92  89  92  92  87  75  90  92  92
  93  93  91  91  93  94  94  92  92  92  89  93  92  91  92  93
  93  88  84  91  91  93  94  92  92  86  75  65  66  70  67  61
  60  67  65  60  64  73  75  75  70  73  90  92  92  92  92  92
  93  94  92  90  90  90  92  93  92  86  91  92  91  92  93  92
  92  94  90  90  91  92  92  93  93  94  93  92  92  91  92  91
  92  92  94  92  93  92  91  94  92  92  84  93  93  92  92  92
  92  92  91  92  92  91  93  93  93  93  90  93  93  90  90  92
  91  93  92  92  92  93  93  93  93  93  81  88  93  92  92  80
  92  91  91  93  92  92  90  93  93  94  95  61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  69  89  94
  90  91  91  90  92  92  92  92  92  93  92  93  87  83  92  93
  92  92  94  92  92  91  92  93  91  89  92  91  90  81  79  79
  60  84  92  91  80  68  69  82  89  82  82  75  89  92  92  94
  93  91  91  89  64  76  92  89  73  69  72  75  70  74  75  74
  76  81  82  92  92  92. 91  92  92  92  92  92  90  91  92  93
  92  90  91  91  93  89  92  91  91  92  91  93  92  91  90  92
  91  92  90  93  93  90  92  90  90  92  92  86  92  92  93  92
  91  94  93  92  94  95  93  93  91  92  92  93  93  93  89  64
  60  60  60  60  60  60  60  60  60  60  66  66  66  65  78  91
  93  93  92  91  80  80  81  90  90  91  90  91  93  94  92  92
  92  92  91  92  92  91  92  93  92  93  92  93  93  94  92  92
  92  67  89  92  93  91  92  92  95  95  93  94  97  96  95  97
%EOF


ENTER LOG DATE (DD/MM/YR) : 05/07/79

ENTER SITE CODE (5 CHARS) : SURGA
ENTER USER CODE (4 CHARS) : 0331

 ENTER JOB CODE (3 CHARS) : 120

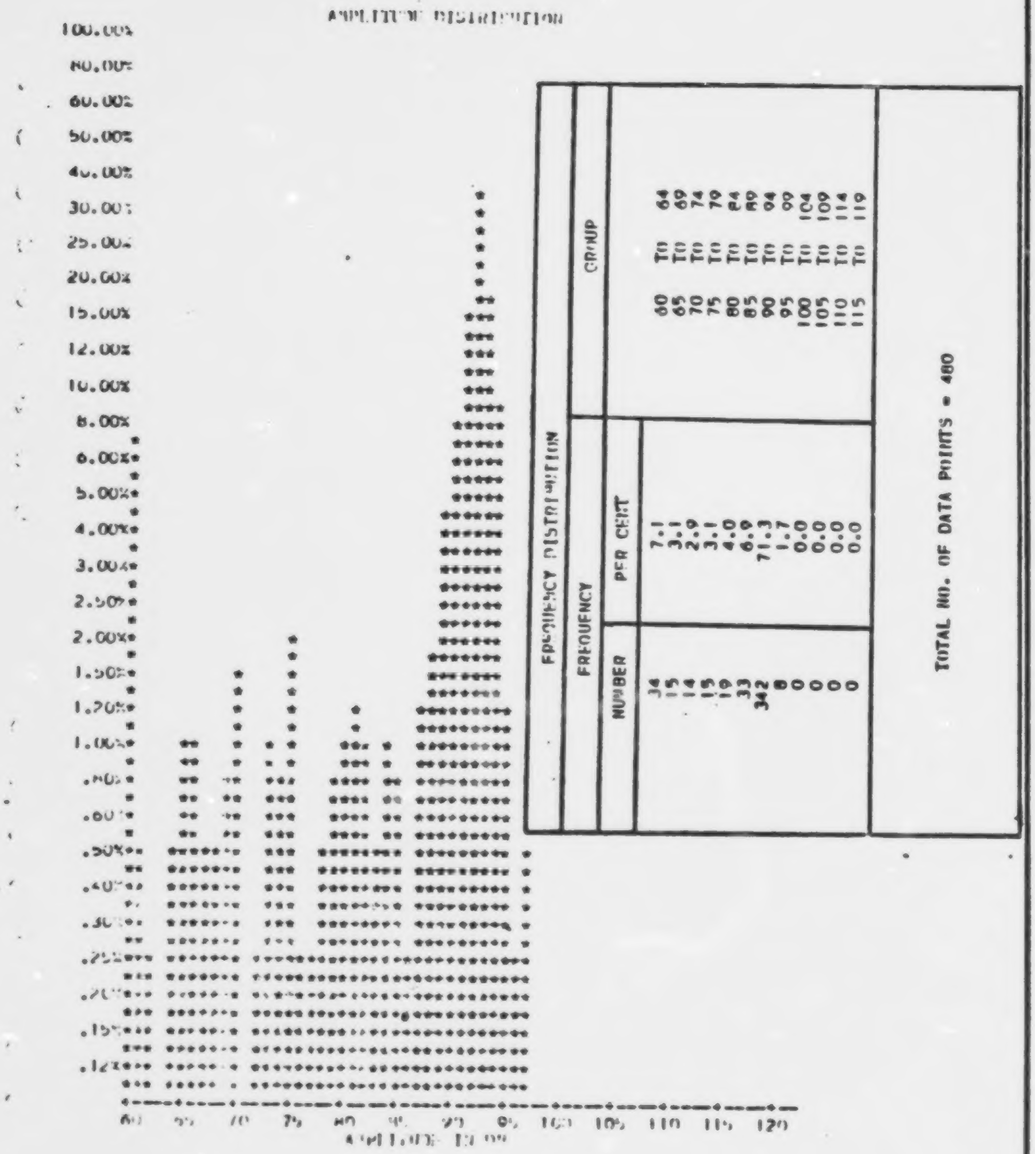

    DATA LOGGED : 5 JULY 1979              DATA ANALYZED : 21  DEC 1979
        LOGGER : DB-301/26                      SITE CODE : SURGA
 SERIAL NUMBER : 1213                            JOB CODE : 120
      BASELINE : 60 DB                          USER CODE : 0331
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8:00:00                   STANDBY TIME =   0:24:58

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 WORK DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPILATIONS = 480
 PERIOD =  1 MINUTES

 TIME           LOSHA                      %DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1       91.7       91.7           13.741      13.74
   2       91.8       91.3           16.052      29.79
   3       89.5       90.7           11.673      41.47
   4       91.[illegible]       91.0           16.[illegible]      57.66
   5       [illegible]       [illegible]           10.[illegible]      [illegible]
   6       [illegible]       90.3           [illegible]      7[illegible].47
   7       91.2       90.5           14.[illegible]      93.29
   8       [illegible]       [illegible]           14.[illegible]      1[illegible]
 [illegible]
 [illegible]
 [illegible]
 [illegible]
```

(63)

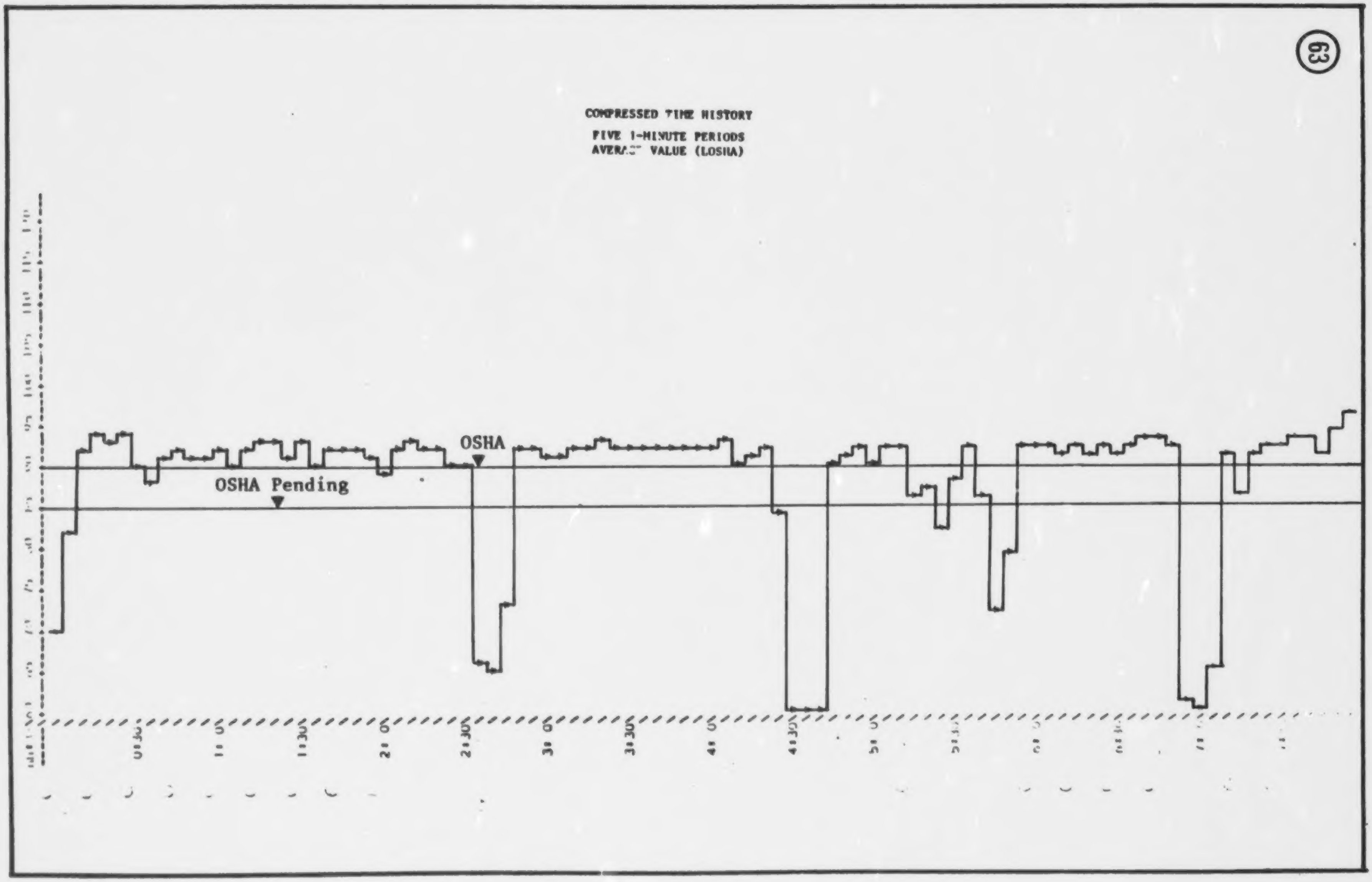


FREQUENCY DISTRIBUTION

GROUP	FREQUENCY NUMBER	FREQUENCY PER CENT
60 TO 64	34	7.1
65 TO 69	15	3.1
70 TO 74	14	2.9
75 TO 79	15	3.1
80 TO 84	19	4.0
85 TO 89	33	6.9
90 TO 94	342	71.3
95 TO 99	8	1.7
100 TO 104	0	0.0
105 TO 109	0	0.0
110 TO 114	0	0.0
115 TO 119	0	0.0

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


63
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA Pending
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0

Electrician ⑹

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
    1   26   80  1217    60   64     4     1
   2/731        93604   390
   69  75  75  63  60  63  61  64  60  61  60  76  60  71  76  64
   74  66  63  74  62  72  74  69  69  71  75  71  67  72  71  77
   69  66  60  60  60  60  60  60  60  60  60  71  70  74  62  66
   71  60  61  70  60  68  62  63  63  60  60  60  61  60  65  60
   60  60  60  60  60  60  60  73  94  84  84  82  83  97  93  91
   95  93  93  92  80  82  72  76  81  95  80  67  81  76  79  85
   69  69  73  78  70  71  76  76  74  77  79  69  75  73  94  79
   63  99  98 102 101 101 101 101 102 104  95  85  82  80  60  60
   60  60  66  76  94 102 104 103 102 103 101  97  90 102 103 104
  103 102 102 102 101 101 102 102 101 102 102 102 102 101 102 103
  103 102 102 103 102 102 102 101 102 101 101 101 101 103 101 101
  102 103  95 101  89  60  60  60  61  60  60  61  60  60  60  60
   61  61  61  60  60  60  61  60  60  60  60  60  60  60  64  69
   67  65  60  60  60  60  60  60  96 100  92  90  71  76  75  73
   72  68  78  65  60  64  66  79  62  76  91  84  81  86  85  85
   85  86  85  85  85  85  85  85  85  85  84  84  85  85  85  85
   85  85  85  85  84  84  83  80  85  76  88  69  60  60  60  62
   60  60  60  60  60  61  61  60  62  65  61  62  61  60  60  60
   60  60  65  60  60  60  60  66  63  61  67  61  67  60  60  64
   63  60  75  65  61  78  61  60  70  65  63  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  80  90  80  60
   72  60  60  60  61  65  63  80  61  60  60  60  60  60  60  62
   60  60  60  61  76  80  71  74  61  60  60  60  61  60  60  60
   62  61  61  60  63  61  64  63  60  65  67  66  60  60  61  60
   64  63  60  61  60  67  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (MM/DD/YY) : 04/07/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0223
 ENTER JOB CODE (3 CHARS) : 013



    DATA LOGGED : 9 JULY 1979              DATA ANALYZED : 11 SEPT 1979
         LOGGER : DL-301/26                    SITE CODE : CRUSH
  SERIAL NUMBER : 1217                          JOB CODE : 013
       BASELINE : 60 DB                        USER CODE : 0223
  DYNAMIC RANGE : 64 DB                        THRESHOLD : 60 DB
  SAMPLING RATE : 4/SEC                    TOTAL SAMPLES =    93504
  TEST DURATION =   6:30: 1                 STANDBY TIME =    1:55:32

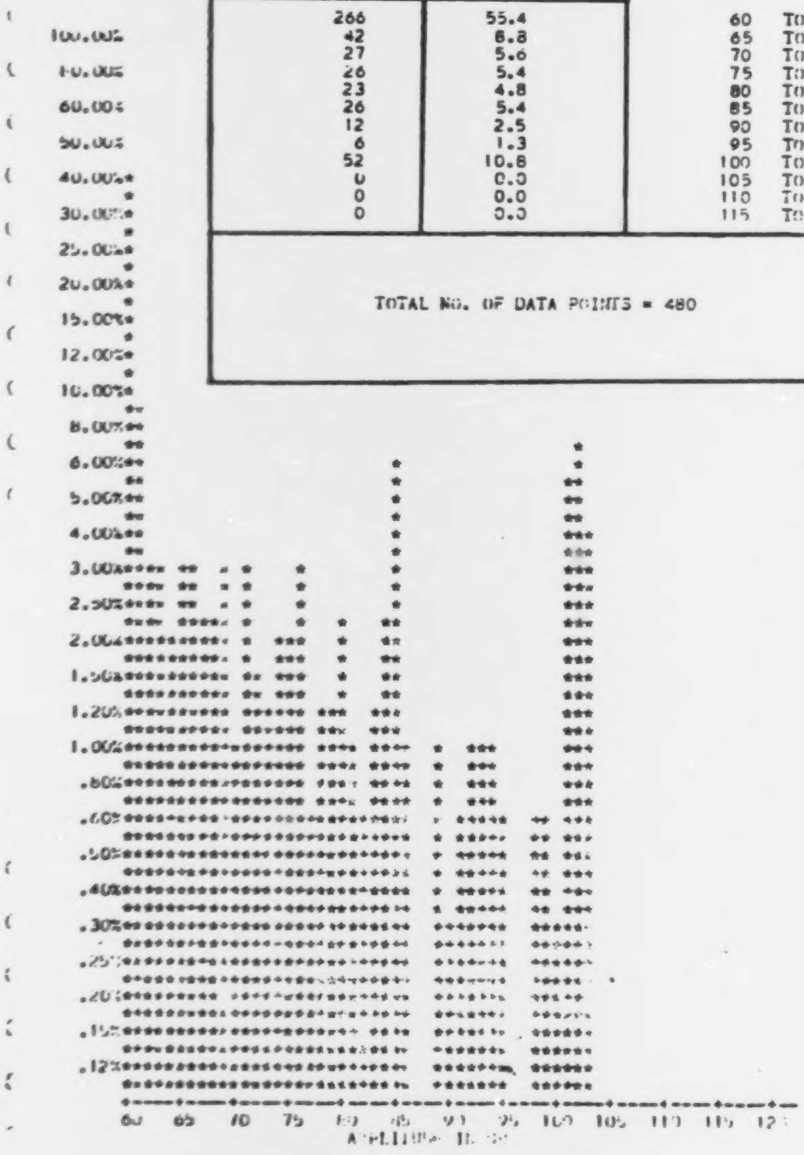
              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ALL LABELS BY THE POLICY [illegible]
TOTAL DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 390
PERIOD =  1 MINUTES

TIME           LOSHA                         %NEI
HOUR     CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
  1        69.2       69.2              .594        .70
  2        88.7       84.2             10.45       11.13
  3       103.4       95.0             53.15       64.90
  4        72.0       92.1              2.74       67.04
  5        73.9       90.4              2.59       69.71
  6        66.7       89.5               .55       70.35
  7        62.5       88.0               .13       70.50
 [illegible] = [illegible]                 [illegible] = [illegible]
[illegible]
[illegible]
[illegible]
```

(64)

Amplitude Distribution

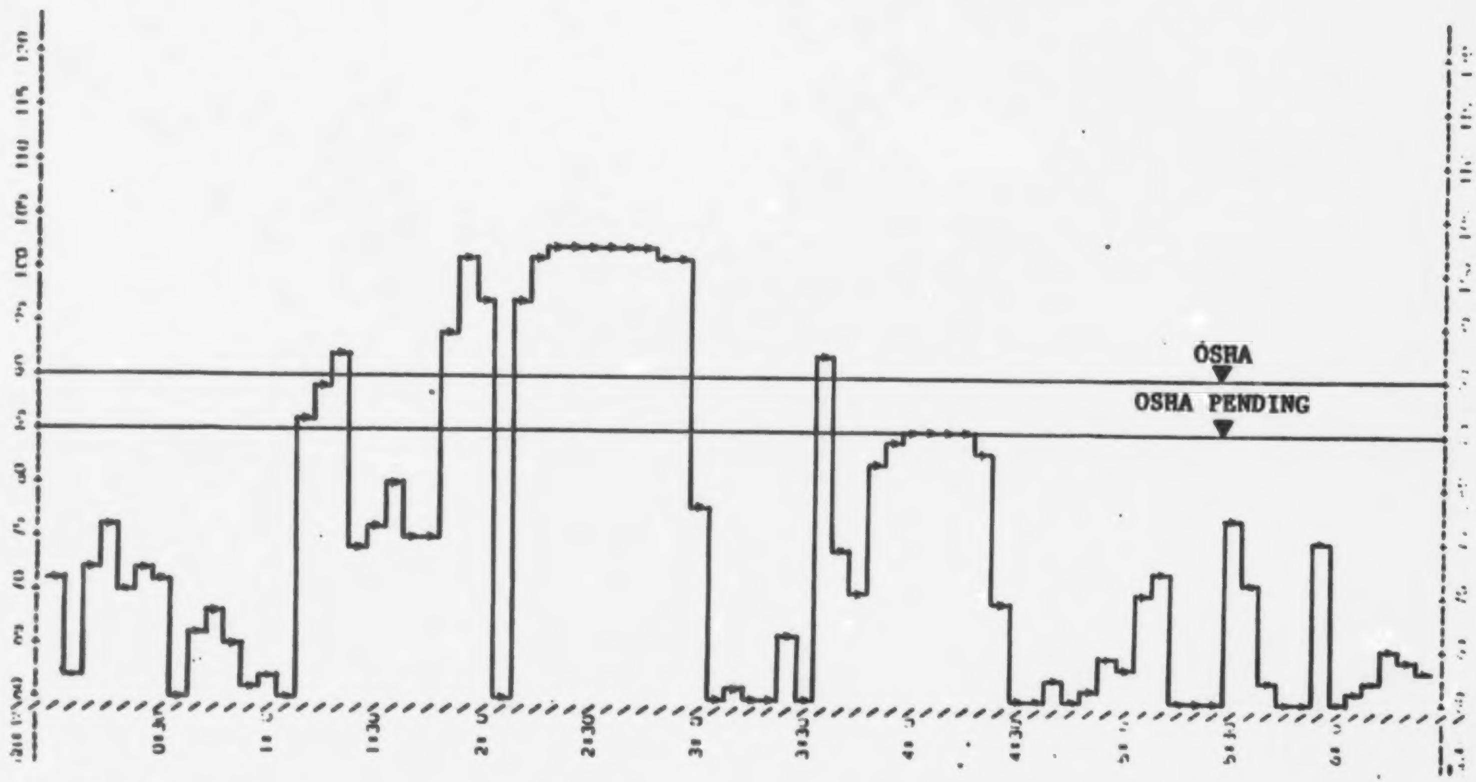


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
266	55.4	60 TO 64
42	8.8	65 TO 69
27	5.6	70 TO 74
26	5.4	75 TO 79
23	4.8	80 TO 84
26	5.4	85 TO 89
12	2.5	90 TO 94
6	1.3	95 TO 99
52	10.8	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		

Number of computations = 390

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



64

(65)

Electrician

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  60  1213   60   64    4    1
   5778     115200  480
  70  70  69  65  62  60  60  65  61  60  72  72  66  68  63  63
  60  60  63  63  60  63  60  66  61  66  67  60  67  79  93  81
  64  65  71  84  82  88  89  90  86  76  60  60  60  62  60  62
  60  60  60  60  60  60  60  60  66  61  60  60  60  67  66  63
  69  63  65  60  74  63  66  65  72  71  62  67  68  60  60  63
  60  61  61  65  65  60  60  60  60  60  60  63  60  71  75  62
  65  62  60  60  63  61  63  63  60  60  60  61  66  65  63  65
  60  60  60  60  60  60  60  60  60  63  71  77  87  72  69  67
  62  60  62  60  60  62  62  68  63  62  62  62  61  60  60  60
  60  60  62  63  60  62  60  60  60  66  62  68  61  63  65  61
  60  60  60  60  60  60  61  60  60  60  61  61  65  82  77  92
  92  88  71  60  67  64  60  60  69  65  74  74  72  78  39  74
  68  82  82  78  62  60  68  71  61  60  60  60  60  60  60  60
  60  60  60  60  62  66  60  60  68  65  73  81  68  64  72  66
  62  74  82  82  83  83  76  61  60  60  60  63  61  69  72  81
  61  70  60  64  64  66  65  67  65  75  60  60  60  60  60  67
  63  60  60  60  64  66  71  68  66  68  60  60  60  60  65  68
  60  60  62  60  64  60  68  60  60  66  61  60  74  60  60  60
  60  60  60  60  61  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  63  60  63  62  62  60  63  64  63  65  69  73
  76  65  60  65  60  60  60  60  64  70  79  80  83  83  80  69
  69  85  73  62  66  62  66  73  69  74  82  69  67  69  76  69
  69  70  73  74  68  71  67  72 ,70  71  69  75  72  75  77  73
  71  75  76  62  75  71  75  76  79  80  80  77  77  79  70  75
  78  79  77  73  78  71  83  75  75  69  70  73  78  74  67  67
  71  75  65  60  60  60  60  60  61  60  60  60  60  64  61  60
  60  69  67  65  60  61  68  72  69  64  62  60  60  69  60  60
  62  64  72  63  62  60  67  87  89  96  87  86  85  85  86  86
  69  83  60  72  81  60  64  76  77  68  60  60  60  60  60  60
  60  60  60  60  60  60  60  50  60  61  60  60  60  60  60  60
*EOF



ENTER LOG DATE (DD/MM/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : GENAR
ENTER USER CODE (4 CHARS) : 0758
 ENTER JOB CODE (3 CHARS) : 003

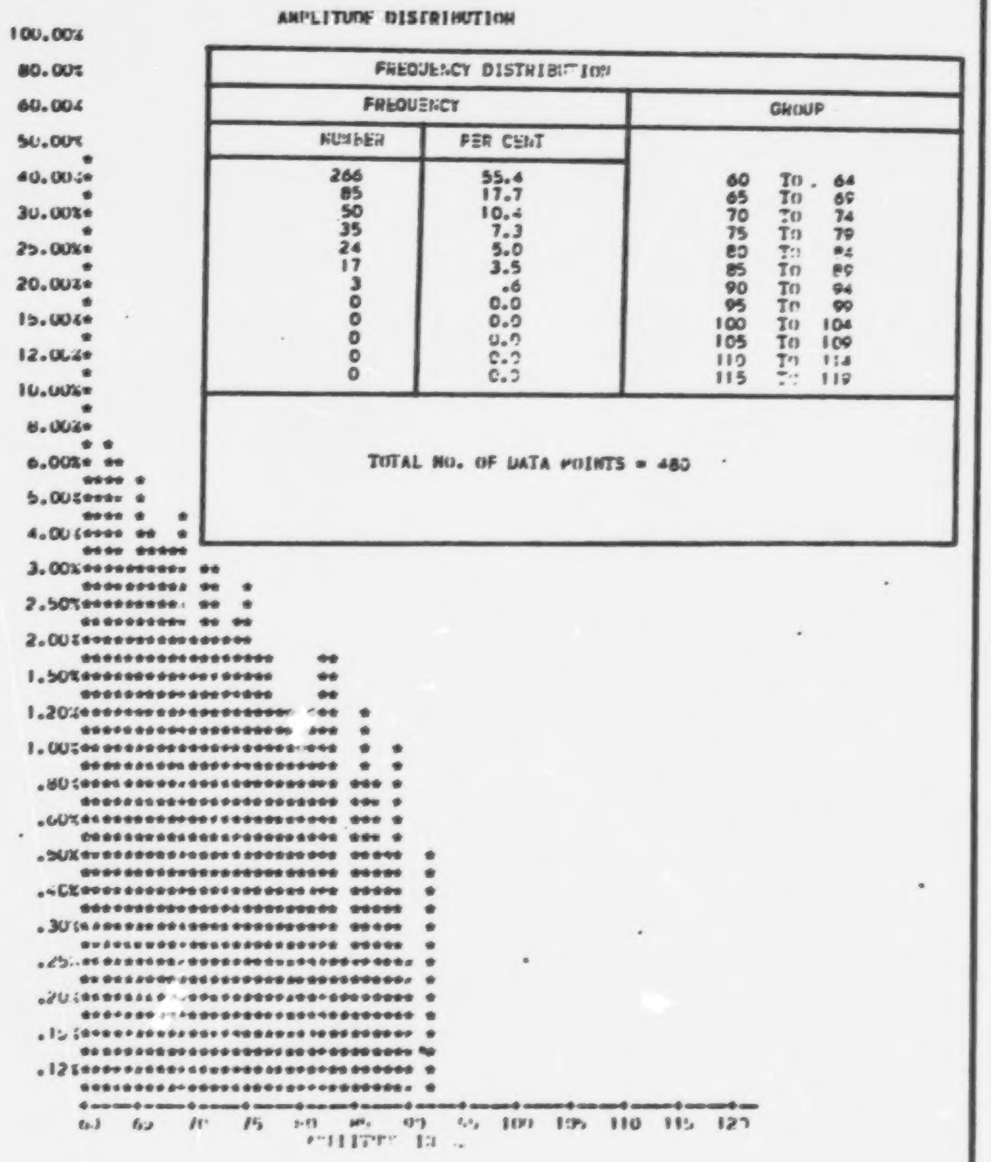


   DATA LOGGED : 9 JULY 1979           DATA ANALYZED : 11 SEPT 1979
        LOGGER : DB-301/26                 SITE CODE : GENAR
 SERIAL NUMBER : 1213                       JOB CODE : 003
      BASELINE : 60 DB                     USER CODE : 0758
 DYNAMIC RANGE : 64 DB                     THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0            STANDBY TIME =   0:24: 9


           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME            LOSHA                    %DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
  1       73.6      73.8          1.330      1.33
  2       64.3      70.5           .356      1.69
  3       73.4      71.6          1.250      2.94
  4       73.2      72.1          1.221      4.16
  5       65.0      71.1           .393      4.55
  6       71.6      71.2           .970      5.52
  7       73.1      71.5          1.208      6.73
  8       75.9      72.2          1.767      8.49
MIN. COMP. =  60 DB              MAX. COMP. =  92 DB
ARITHMETIC MEAN =  66 DB
STD. DEVIATION =   8 DB
VARIANCE = 64 DB
```



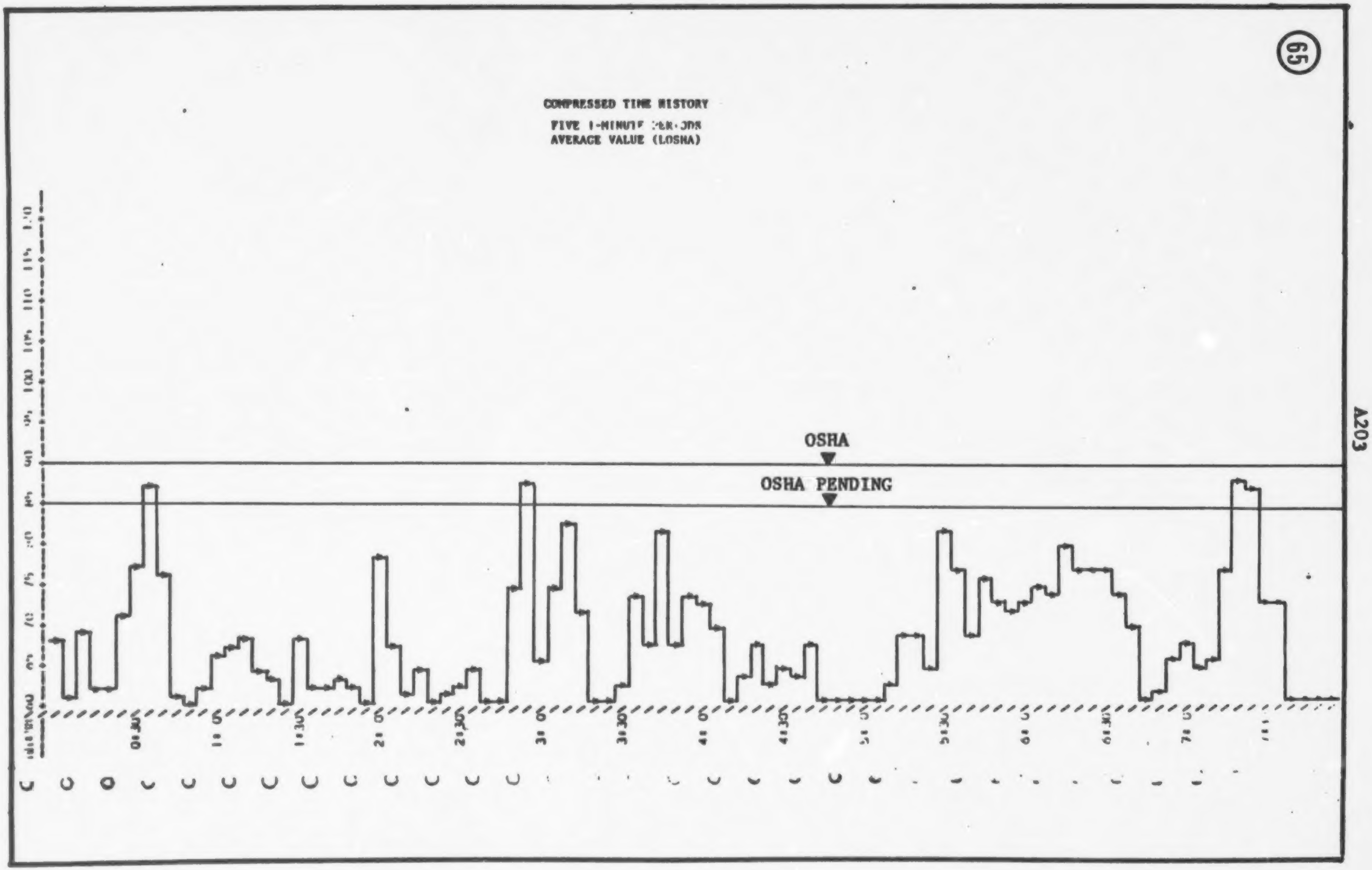
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
266	55.4	60 TO 64
85	17.7	65 TO 69
50	10.4	70 TO 74
35	7.3	75 TO 79
24	5.0	80 TO 84
17	3.5	85 TO 89
3	.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(65)



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(66)

Electrician

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1226   60   64    4    1
    6687      115200  480
   72  62  60  65  64  70  69  60  63  67  60  60  60  60  62  60
   62  62  60  60  62  60  60  60  63  65  60  68  67  85  88  84
   70  76  71  78  87  84  85  85  84  86  87  84  86  80  60  67
   69  72  61  66  71  72  79  60  69  61  68  60  60  60  60  60
   60  69  70  72  74  71  69  60  60  60  61  67  79  72  62  63
   70  60  60  62  64  70  75  75  65  70  62  60  60  60  69  71
   71  63  72  69  64  62  75  62  61  69  73  66  70  64  67  76
   72  69  75  75  73  60  60  60  61  60  60  60  60  60  60  60
   60  60  60  60  64  64  69  67  71  80  84  85  90  88  98 104
  105  93  92  94  72  79  97  96  97 100 104 100  98  97  99 100
   99 100 100 100 100 100 100  99 100 100  99 100 100 100 108 107
  108 107 105 101  69  78  77  75  72  62  62  65  67  64  71  62
   60  61  74  74  70  66  78  76  79  80  78  77  76  75  78  76
   75  75  78  76  76  75  79  79  79  76  76  76  79  79  78  76
   81  76  75  79  78  76  77  62  91  87  90  80  81  81  82  82
   82  88  92  94  90  91  97  82  80  92  93  91  68  73  71  75
   90  62  93  68  63  72  94  65  62  62  60  63  61  74  60  60
   66  61  61  60  60  60  60  60  60  60  60  63  60  60  60  60
   64  60  60  60  60  60  60  60  60  61  60  60  61  60  60  92
   99 102 102  98 102  99  70  76  82  79  72  70  76  73  74  71
   60  70  70  61  72  60  60  64  63  69  60  65  60  60  68  73
   69  67  60  60  66  77  73  70  65  77  71  63  60  75  85  64
   60  90  73  71  80  71  70  84  69  78  83  69  66  76  68  62
   67  63  64  71  67  80  89  94  87  81  80  83  80  78  86  91
   92  91  77  60  61  75  86  96 101 100 100 100  96  97  88  86
   84  82  82  83  80  78  71  70  73  70  72  71  75  72  72  78
   78  78  82  84  81  79  76  77  78  77  83  81  77  70  71  75
   79  80  80  77  82  79  79  80  78  77  77  80  80  81  81  76
   78  74  73  81  79  78  82  75  79  77  73  65  60  60  61  60
   72  79  79  73  71  69  68  62  76  64  60  60  60  60  60  67
%EOF



ENTER LOG DATE (DD/MM/YR) : 09/07/79

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0967
 ENTER JOB CODE (3 CHARS) : 003



   DATA LOGGED : 9 JULY 1979            DATA ANALYZED : 11 SEPT 1979
        LOGGER : DB-301/26                  SITE CODE : CRUSH
 SERIAL NUMBER : 1226                        JOB CODE : 003
      BASELINE : 60 DB                      USER CODE : 0967
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   0:36:11

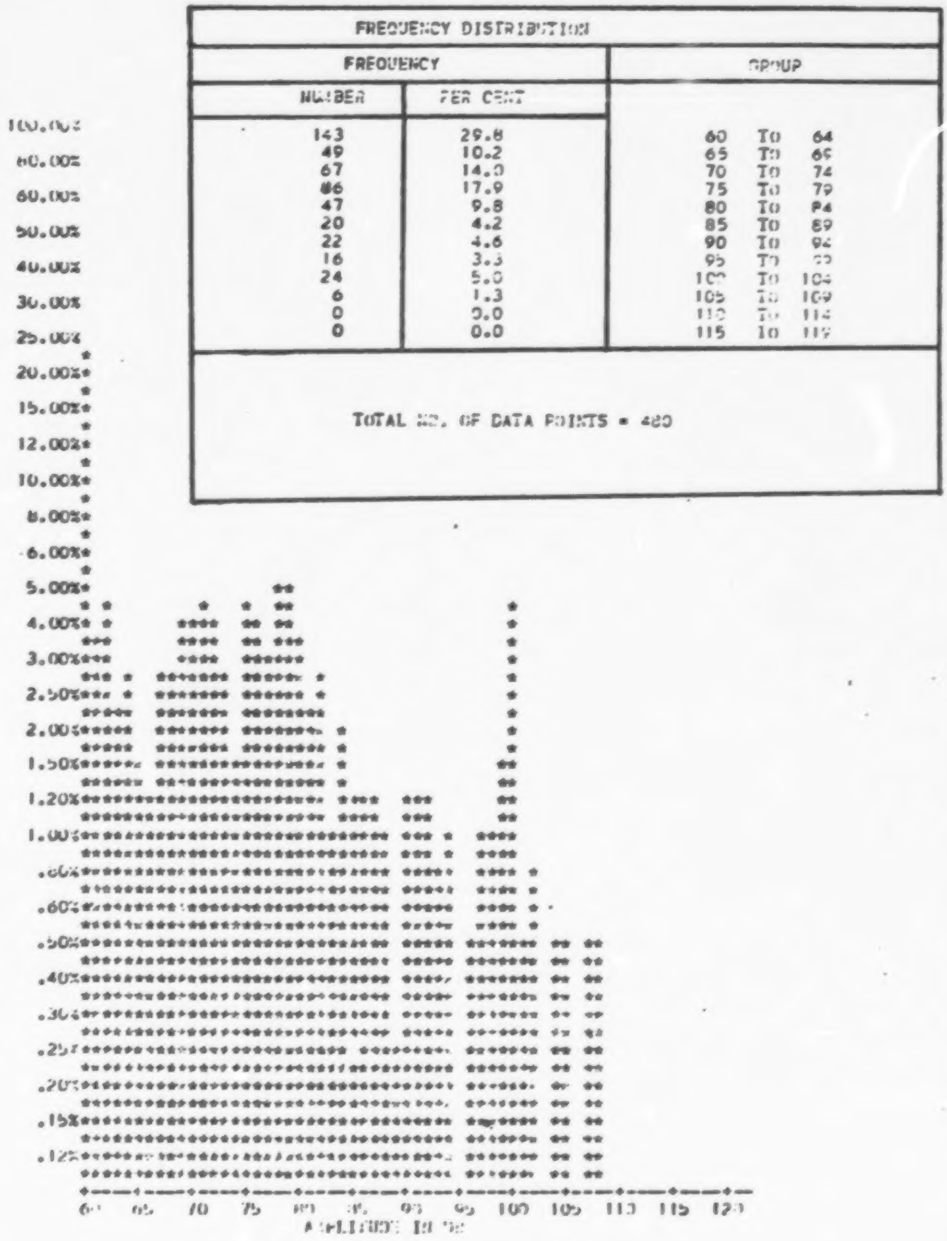
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                      %DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1       76.1      76.1          1.417      1.42
   2       65.8      73.3           .472      2.48
   3       97.7      90.2         36.318     38.80
   4       78.0      88.6          2.362     41.16
   5       81.6      87.7          4.033     45.19
   6       85.6      87.4          6.764     51.96
   7       86.9      87.3          8.124     60.10
   8       76.4      86.6          1.907     62.01
MIN. COMP. =  60 DB              MAX. COMP. = 108 DB
ARITHMETIC MEAN =  74 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

(66)

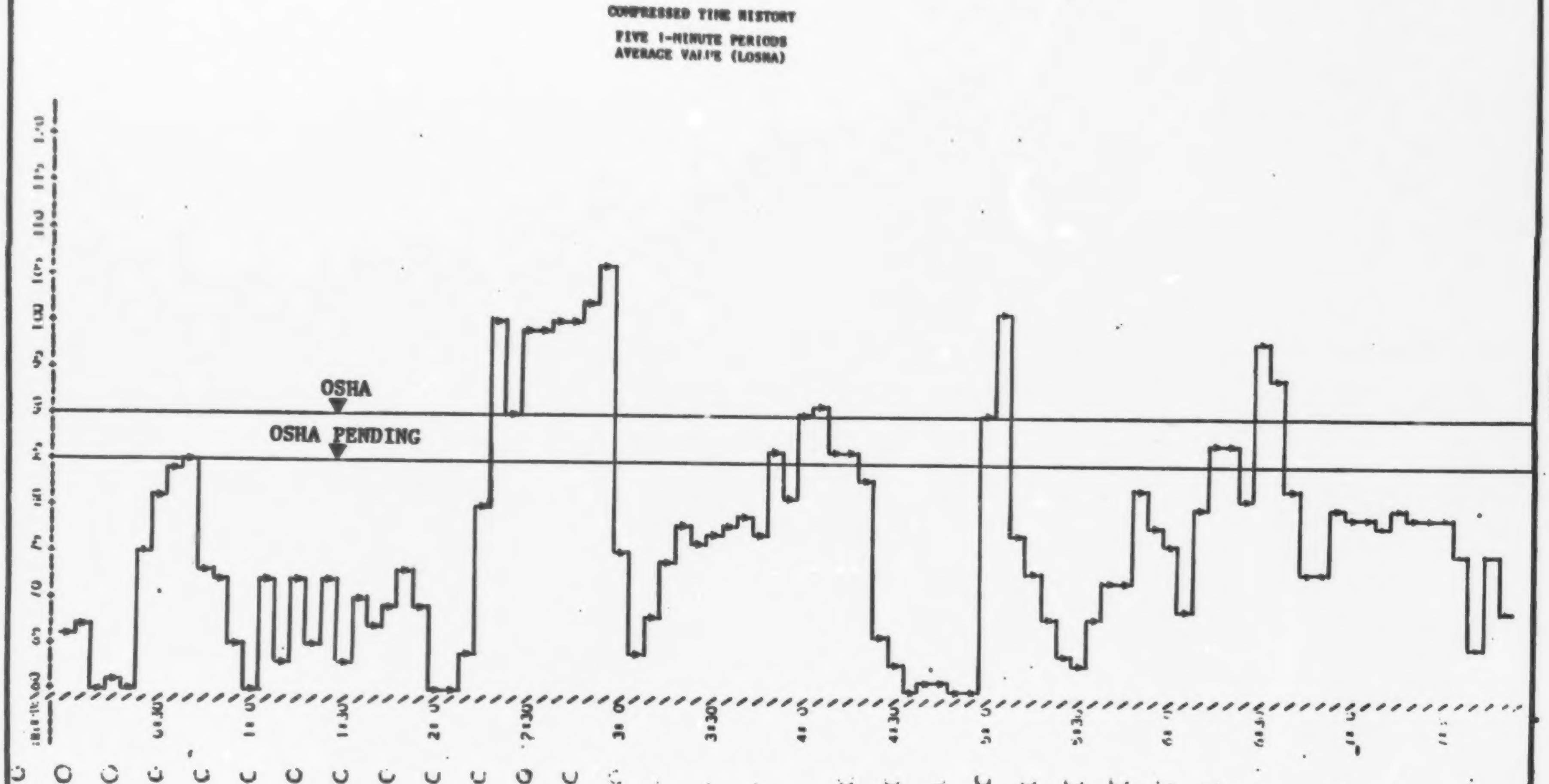
Amplitude Distribution



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
143	29.8	60 TO 64
49	10.2	65 TO 69
67	14.0	70 TO 74
86	17.9	75 TO 79
47	9.8	80 TO 84
20	4.2	85 TO 89
22	4.6	90 TO 94
16	3.3	95 TO 99
24	5.0	100 TO 104
6	1.3	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

(67)

```
FLAG [illegible] A "SPACE" AND A "RETURN"
  1  26  60  1212  70  64   4   1
  21397    115200  480                                       Electrician
   77  62  68  78  72  95  91  76  69  66  83  77  83  86  85  89
   84  83  87  83  84  85  82  86  84  87  77  81  76  74  71  70
   73  74  69  72  71  71  71  74  74  73  72  75  78  83  90  95
   96  96 100  99 100  91  81  90  90  91  73  77  90  83  72  89
   84  82  7[illegible]  80  70  74  80  76  78  71  67  64  66  64  79  87
   [illegible]
   [illegible]
   [illegible]
   65  72  76  67  64  72  84  83  90  87  71  87  89  89  70  63
   [illegible]
   60  60  6[illegible]  61  62  60  60  61  60  60  60  61  60  60  60  65
   62  60  60  60  60  62  61  63  61  60  60  61  61  73  76  9[illegible]
   91  98  93  92  92  91  91  92  92  90  90  91  91  91  91  91
   93  91  91  91  91  92  90  92  92  92  93  94  [illegible]  93  93  92
   93  93  93  91  76  60  60  61  87  64  60  60  60  67  68  61
   68  65  64  60  73  60  75  81  81  82  81  81  82  81  81  81
   81  81  81  81  81  87  87  87  86  86  86  87  87  87  87  87
   87  87  87  87  87  87  87  87  82  82  85  80  82  80  71  87
   95  93  94  85  77  83  70  71  74  86  95  96  67  86  90  94
   89  88  87  88  90  93  93  93  93  94  92  89  91  90  90  91
   65  89  [illegible]  71  [illegible]  75  54  [illegible]
   60  60  60  66  60  60  60  60  60  60  61  61  61  62  68  60
   78  77  71  78  91  90  92  93  94  93  88  90  93  95  95  94
   94  95  93  91  84  75  75  77  77  76  78  76  81  66  69  67
   74  75  60  60  63  65  60  60  60  60  61  60  60  60  61  65
   62  62  62  66  64  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  62  60  65  60  67  68  60  60  60  60  60
   60  61  64  75  73  73  73  63  91  89  90  86  65  60  60  60
   60  64  60  60  60  60  60  60  60  60  60  86  87  87  87  87
   87  87  87  87  87  87  87  87  88  92  87  60  60  60  60  60
%EOF


ENTER LOG DATE ([illegible]/YR) : 02/07/79 .

ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0266
 ENTER JOB CODE (3 CHARS) : 013


   DATA LOGGED : 9 JULY 1979              DATA ANALYZED : 11 SEPT 1979
        LOGGER : PB-301/26                      SITE CODE : CRUSH
 SERIAL NUMBER : 1212                            JOB CODE : 01[illegible]
      DBA BLIND : 60 DB                          USER CODE : [illegible]
 DYNAMIC RANGE : 64 DB                           THRESHOLD : [illegible]
 SAMPLING RATE : 4/SEC                      TOTAL SAMPLES = 115200
 TEST DURATION = [illegible]                 SAMPLES [illegible] = [illegible]


            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATION :
[illegible]
[illegible]
[illegible]
[illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

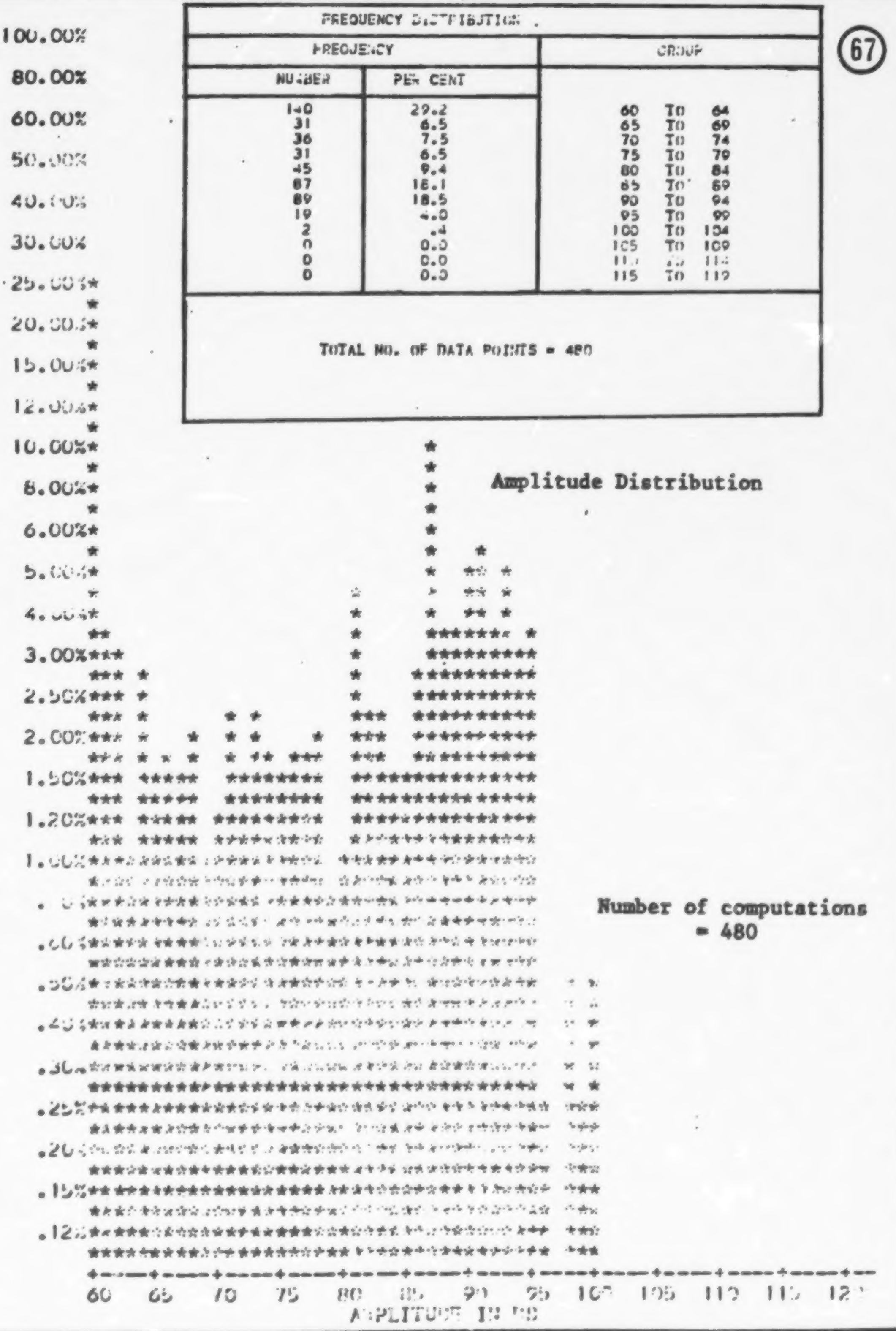

[illegible]        [illegible]                       [illegible]
[illegible]    [illegible]    [illegible]       [illegible]    [illegible]
   1          66.6          66.6             7.692          7.65
   2          88.1          87.4             9.565         17.42
   3          [illegible]   [illegible]      4.293          2[illegible].71
   4          [illegible]   [illegible]     10.235          [illegible]
   5          [illegible]   [illegible]      6.1[illegible] 37.06
   6          86.6          [illegible]      7.882         44.90
   7          [illegible]   [illegible]      [illegible]    [illegible]
   8          [illegible]   [illegible]      3.317          [illegible]
MIN. CONC. = 60 DB                       MAX. CONC. = 10[illegible]
ARITHMETIC MEAN = 77.[illegible]
STD. DEVIATION = 13[illegible]
VARIANCE = [illegible]
```

(67)

FREQUENCY DISTRIBUTION .

FREQUENCY		GROUP
NUMBER	PER CENT	
140	29.2	60 TO 64
31	6.5	65 TO 69
36	7.5	70 TO 74
31	6.5	75 TO 79
45	9.4	80 TO 84
87	18.1	85 TO 89
89	18.5	90 TO 94
19	4.0	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

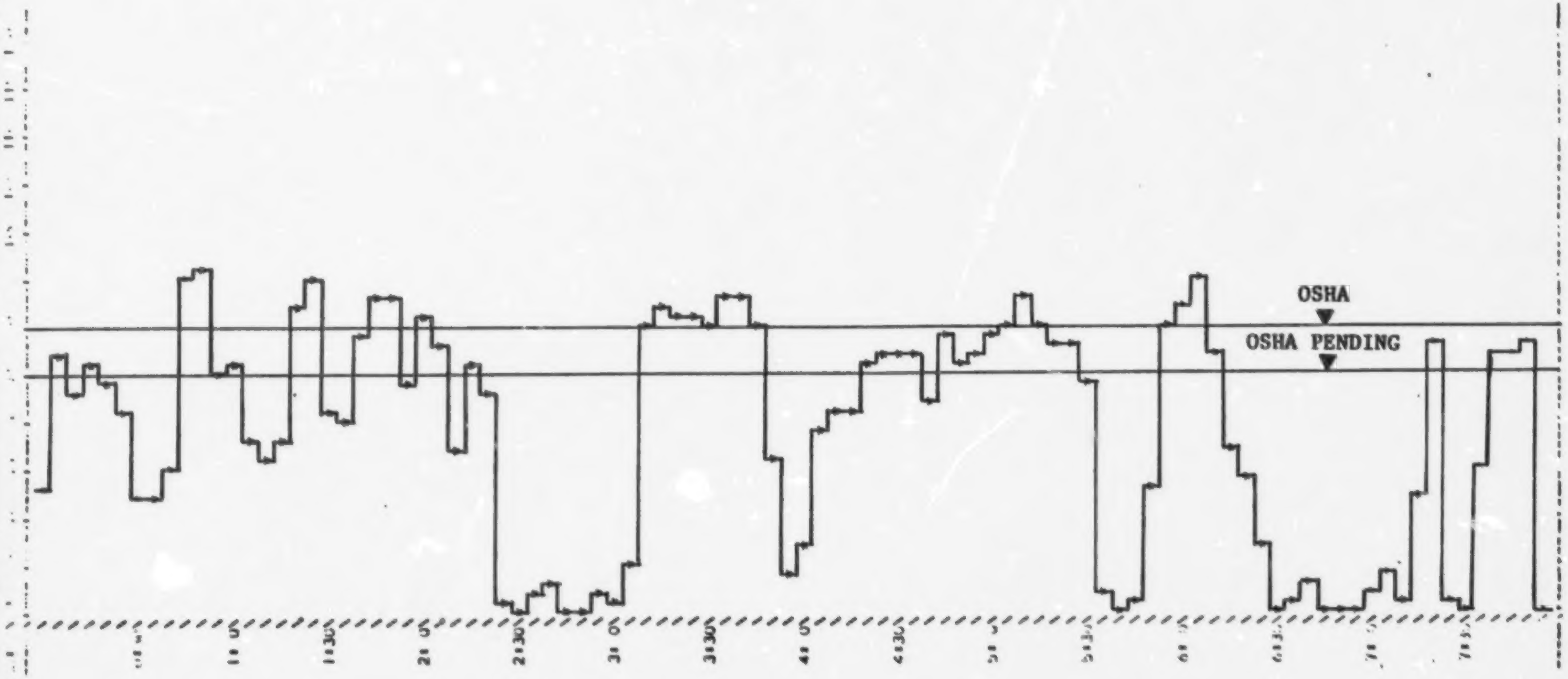
TOTAL NO. OF DATA POINTS = 480



Amplitude Distribution

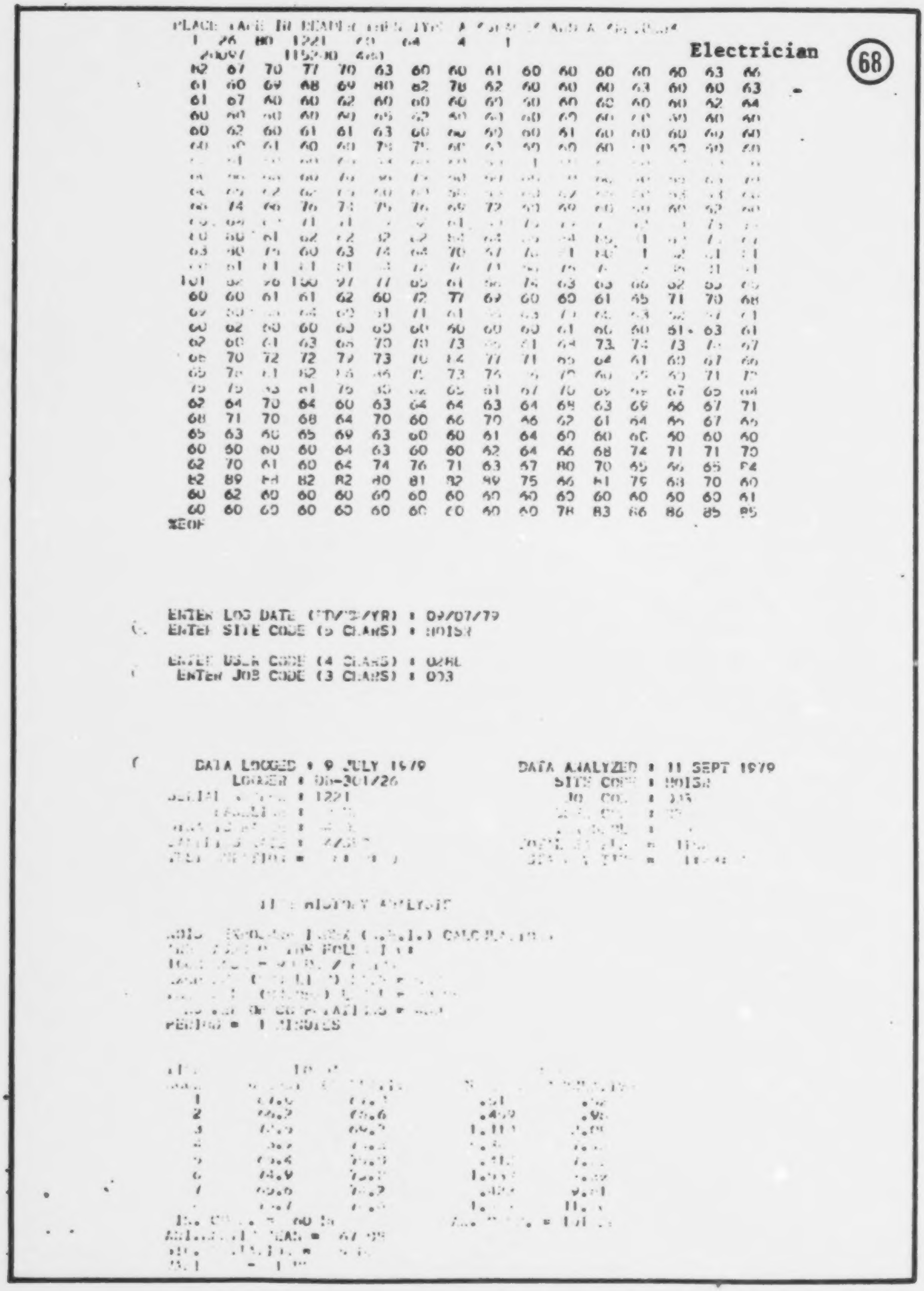
Number of computations = 480

(67)



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Electrician (68)

```
PLACE TAPE IN READER THEN TYPE [illegible]
  1   26   80   1221   [illegible]   64    4    1
   20097      115200   400
   62   67   70   77   70   63   60   60   61   60   60   60   60   60   63   66
   61   60   69   68   69   80   62   78   62   60   60   60   63   60   60   63
   61   67   60   60   62   60   60   60   60   60   60   62   60   60   62   64
   60   60   60   60   60   65   62   60   61   60   62   60   [illegible]   60   60   60
   60   62   60   61   61   63   60   60   60   60   61   60   60   60   60   60
   60   60   61   60   60   75   75   60   63   60   60   60   [illegible]   63   60   60
   [illegible]
   [illegible]
   [illegible]
   66   74   66   76   73   75   76   69   72   60   60   60   60   60   62   60
   [illegible]
   60   60   61   62   62   62   62   [illegible]
   63   60   75   60   63   74   64   70   57   [illegible]
   [illegible]
  101   [illegible]   96  100   97   77   65   61   [illegible]   74   63   63   66   62   63   [illegible]
   60   60   61   61   62   60   72   77   69   60   60   61   65   71   70   68
   67   [illegible]   71   61   [illegible]
   60   62   60   60   60   60   60   60   60   60   61   66   60   61   63   61
   62   60   61   63   65   70   70   73   [illegible]   61   64   73   74   73   [illegible]   67
   66   70   72   72   72   73   70   74   77   71   65   64   61   60   67   66
   65   76   61   82   [illegible]   66   [illegible]   73   74   [illegible]   70   60   [illegible]   60   71   [illegible]
   75   75   [illegible]   61   75   [illegible]   62   65   61   67   70   69   [illegible]   67   65   64
   62   64   70   64   60   63   64   64   63   64   68   63   69   66   67   71
   68   71   70   68   64   70   60   66   70   66   62   61   64   66   67   65
   65   63   60   65   69   63   60   60   61   64   60   60   60   60   60   60
   60   60   60   60   64   63   60   60   62   64   66   68   74   71   71   70
   62   70   61   60   64   74   76   71   63   67   80   70   65   66   65   84
   82   89   84   82   82   80   81   82   89   75   66   81   79   68   70   60
   60   62   60   60   60   60   60   60   60   60   60   60   60   60   60   61
   60   60   60   60   60   60   60   60   60   60   78   83   66   86   85   85
%EOF


ENTER LOG DATE (MO/DY/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : NOISE
 
ENTER USER CODE (4 CHARS) : 02RL
 ENTER JOB CODE (3 CHARS) : 003


    DATA LOGGED : 9 JULY 1979                    DATA ANALYZED : 11 SEPT 1979
        LOGGER : 06-301/26                           SITE CODE : NOISE
SERIAL [illegible] : 1221                              JOB CODE : 003
   [illegible]                                        [illegible]
[illegible]                                           [illegible]
[illegible]                                           [illegible]
[illegible]                                           [illegible]

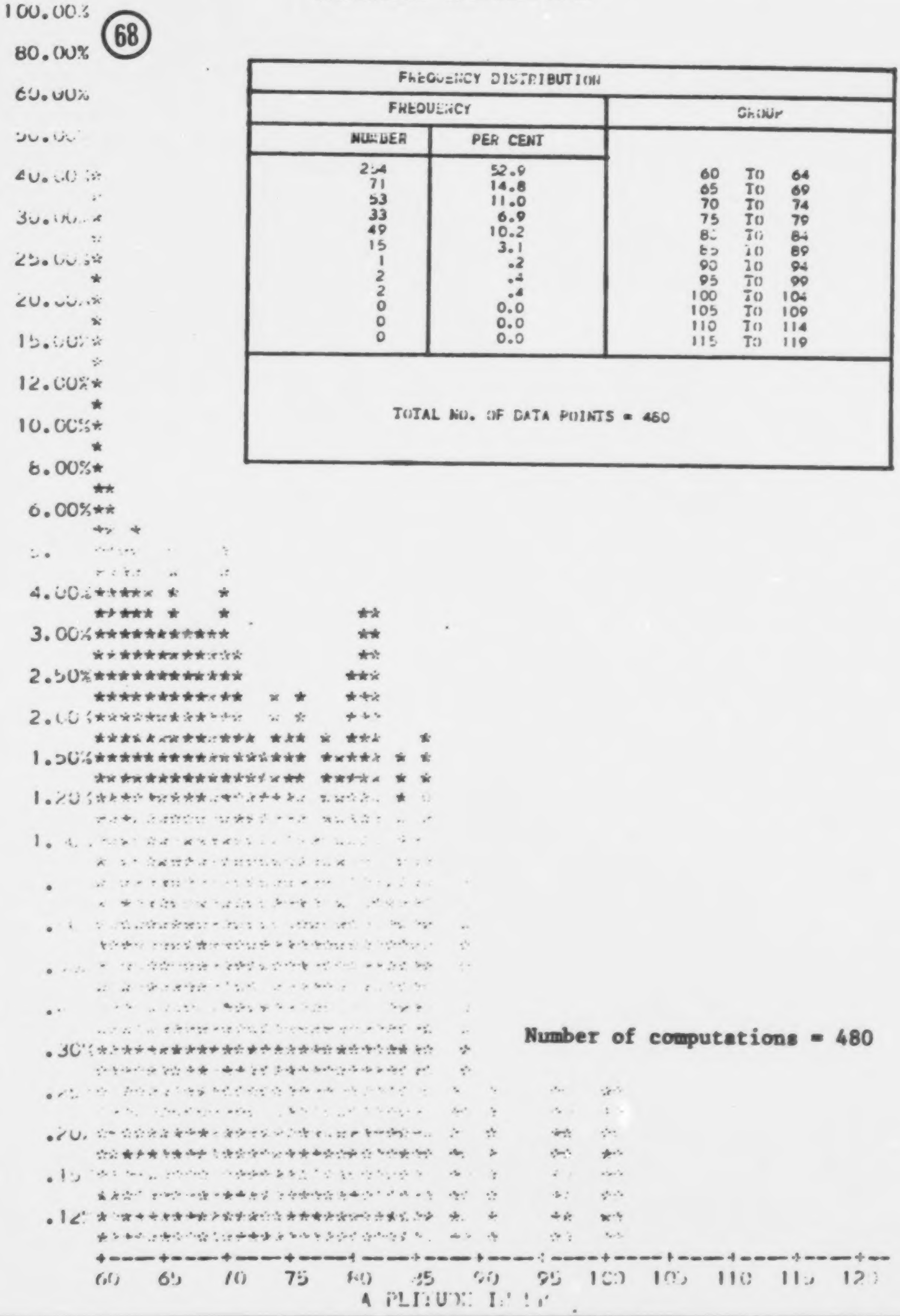
          [illegible] HISTORY ANALYSIS

NOISE [illegible] CALCULATION
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
PERIOD =  1 MINUTES

[illegible]
[illegible]
   1        [illegible]        [illegible]             [illegible]          [illegible]
   2        [illegible]        [illegible]             .4[illegible]        .9[illegible]
   3        [illegible]        [illegible]            1.11[illegible]       [illegible]
   [illegible]
   5        [illegible]        [illegible]             [illegible]          [illegible]
   6        74.9         [illegible]            1.[illegible]        [illegible]
   7        [illegible]        [illegible]             [illegible]          9.[illegible]
   [illegible]
[illegible] = 60 [illegible]               [illegible] = [illegible]
[illegible] MEAN =  67.[illegible]
[illegible]
[illegible] = 1.[illegible]
```

AMPLITUDE DISTRIBUTION

(68)

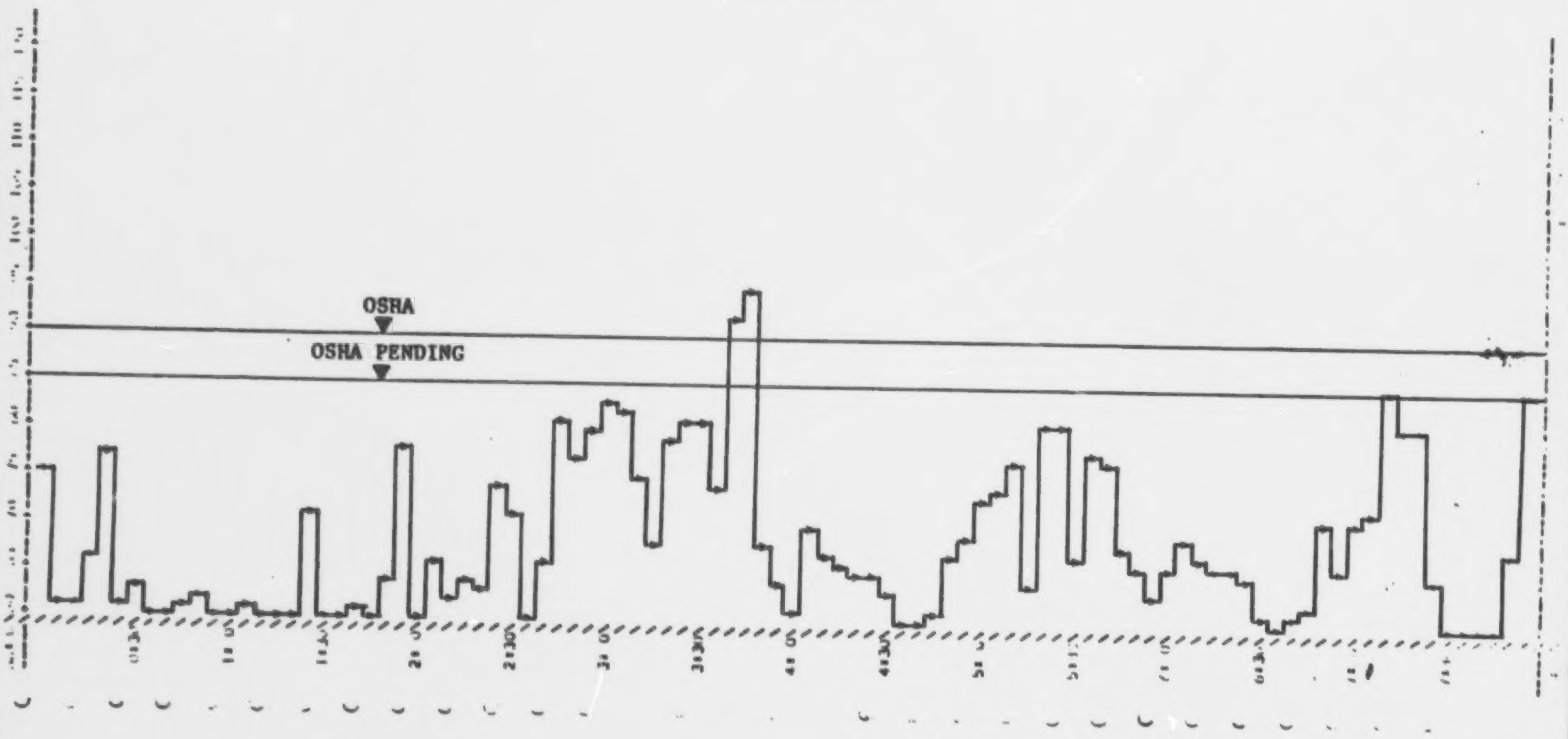


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
254	52.9	60 TO 64
71	14.8	65 TO 69
53	11.0	70 TO 74
33	6.9	75 TO 79
49	10.2	80 TO 84
15	3.1	85 TO 89
1	.2	90 TO 94
2	.4	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(69)

Electrician

```
PLACE TAPE IN READER AND TYPE A 'SPACE' AND A 'RETURN'
 1  26  60  1275   60   64    4    1
 16471     115200  480
 70  68  69  60  65  77  75  62  60  67  66  66  64  69  60  66
 60  69  71  73  69  72  67  69  67  67  84  71  63  74  81  83
 76  65  63  74  60  60  60  60  60  64  66  63  77  89  87  85
 81  67  66  67  82  76  63  79  74  80  68  74  75  79  64  71
 72  69  67  85  70  64  79  85  81  76  82  88  90  89  85  89
 [illegible]  71  [illegible]  72  [illegible]
 63  72  67  77  74  [illegible]  77  [illegible]  74  [illegible]
 60  [illegible]  69  [illegible]  77  71  [illegible]  1  [illegible]
 69  64  74  63  60  64  60  60  61  67  64  67  70  65  60  66
 75  75  71  [illegible]  69  74  [illegible]  71  72  76  70  70  [illegible]  74  [illegible]
 95  84  77  69  75  76  75  77  71  96  89  89  75  70  81  [illegible]
 79  80  84  95  91  85  68  76  70  73  77  69  79  73  69  60
 67  72  [illegible]  69  72  72  75  75  67  74  60  73  62  72  73  [illegible]
 95  73  [illegible]  66  82  83  [illegible]  94  94  82  79  77  73  77  7[illegible]
 66  88  87  86  84  87  87  88  84  80  80  83  87  89  89  87
 87  87  86  96  87  87  91  98  89  90  94  95  92  95  93  90
 90  92  91  92  73  80  84  73  80  79  76  82  80  72  62  72
 70  71  67  66  68  62  60  60  63  62  60  60  63  60  60  60
 61  60  60  60  60  62  60  61  60  60  62  63  67  67  64  64
 65  63  75  71  64  64  64  61  63  68  70  77  76  69  75  76
 74  62  60  63  67  69  76  74  [illegible]  83  [illegible]  83  75  [illegible]
 86  90  90  91  90  91  89  90  89  91  92  91  61  73  61  60
 60  60  60  60  60  60  60  60  60  79  82  60  60  82  90  87
 65  82  67  86  88  87  85  87  88  86  87  64  66  89  87  86
 64  65  65  89  69  89  79  65  84  83  69  66  89  85  83  81
 94  64  82  72  74  66  65  77  81  60  69  67  76  83  77  71
 79  84  77  79  63  69  66  62  70  66  65  66  73  60  65  60
 60  60  69  60  70  92  93  69  60  63  64  74  60  66  60  60
 60  60  71  60  60  72  69  71  73  60  77  64  70  80  61  76
 70  71  67  60  63  68  70  76  63  60  60  63  79  80  85  82
%EOF




ENTER LOG DATE (MM/DD/YR) : 09/07/79.
ENTER SITE CODE (5 CHARS) : GENAR
ENTER USER CODE (4 CHARS) : 0272
 ENTER JOB CODE (3 CHARS) : 003




    DATA LOGGED : 9 JULY 1979              DATA ANALYZED : 11 SEPT 1979
        LOGGER : 05-261/26                       SITE CODE : GENAR
 SERIAL NUMBER : 1275                             JOB CODE : 003
      SAMPLING : [illegible]                     USER CODE : 0272
 DATA IN RANGE : [illegible]                     THRESHOLD : [illegible]
 SAMPLING RATE : 4/SEC                       TOTAL SAMPLES =  115200
 TEST DURATION =  [illegible]                  STANDBY TIME =  [illegible]

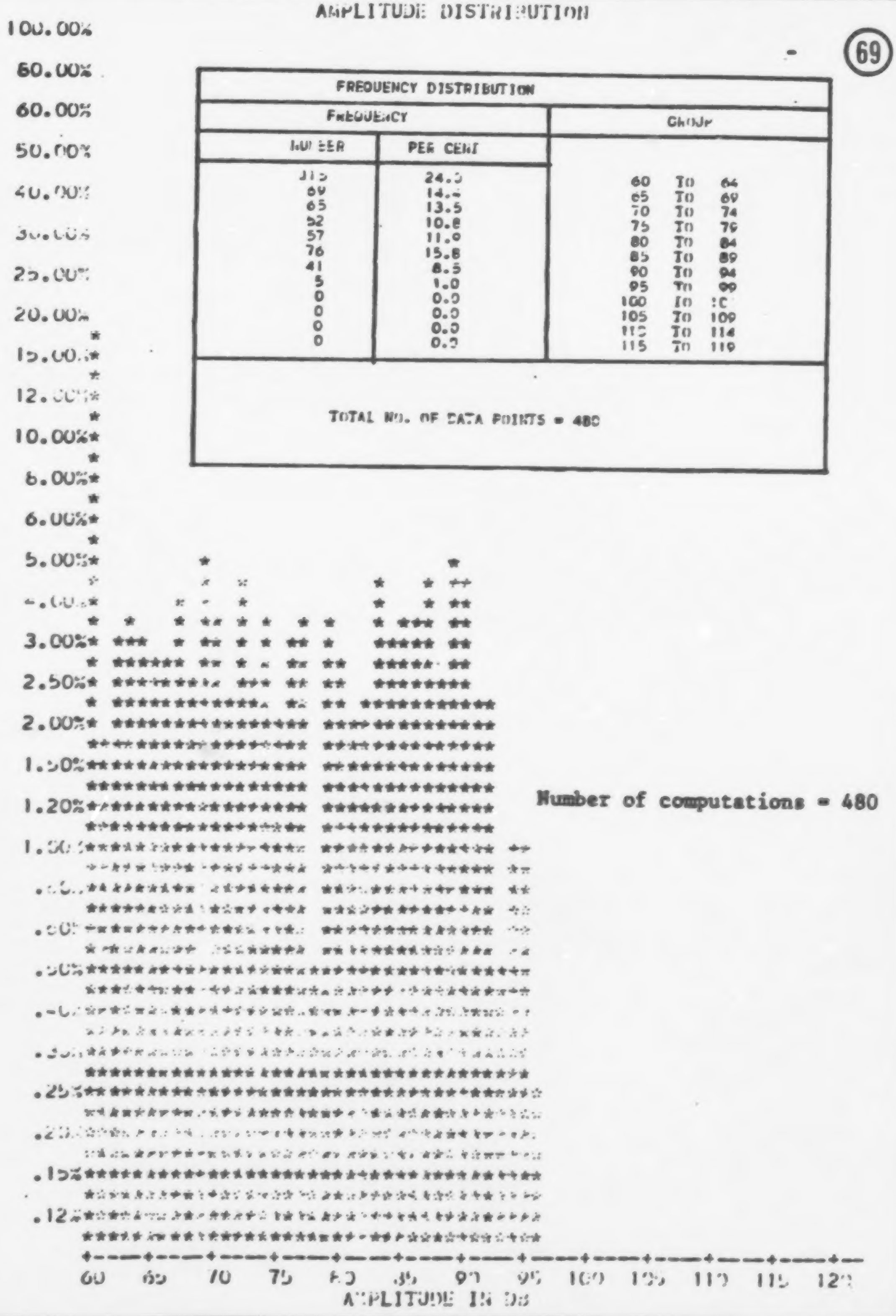
            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
BASED ON THE FOLLOWING:
EXPOSURE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LEQ                          NEI
HOUR     PERIOD  CUMULATIVE          PERIOD   CUMULATIVE
   1       77.6       77.6            2.24[illegible]    2.25
   2       82.6       80.5            4.4[illegible]     6.73
   3       [illegible]  [illegible]   3.2[illegible]     [illegible]
   4       [illegible]  81.4          5.2[illegible]     15.2[illegible]
   5       83.7       81.9            5.1[illegible]     20.4[illegible]
   6       81.3       81.8            3.746     24.19
   7       [illegible]4.1  [illegible]  [illegible]      2[illegible]
   8       [illegible]  81.6          1.5[illegible]     31.27
MIN. CONC. =  60 [illegible]          MAX. CONC. =  9[illegible]
ARITHMETIC MEAN =  74.95
STD. DEVIATION =  11.[illegible]
VARIANCE = [illegible]
```

(69)

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
115	24.0	60 TO 64
69	14.4	65 TO 69
65	13.5	70 TO 74
52	10.8	75 TO 79
57	11.9	80 TO 84
76	15.8	85 TO 89
41	8.5	90 TO 94
5	1.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

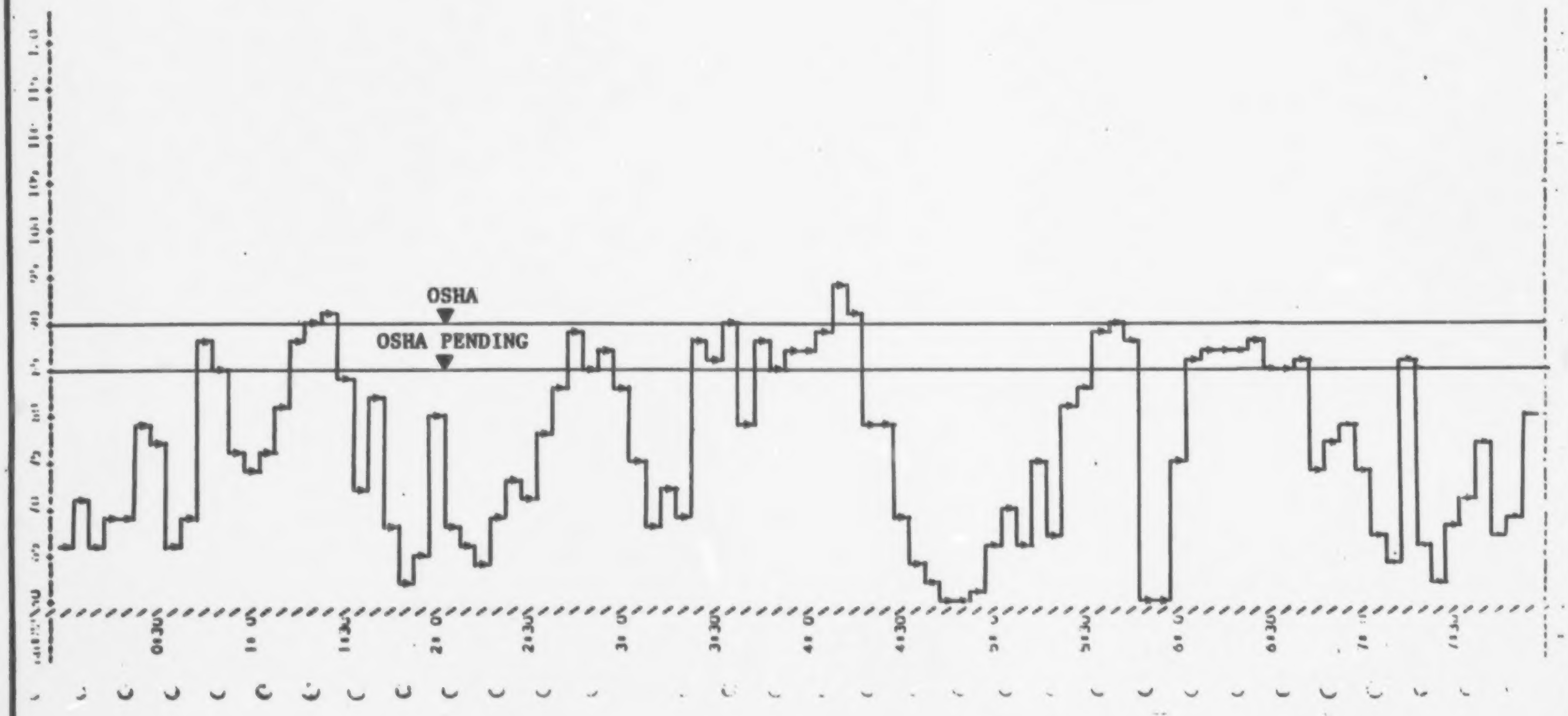
TOTAL NO. OF DATA POINTS = 480

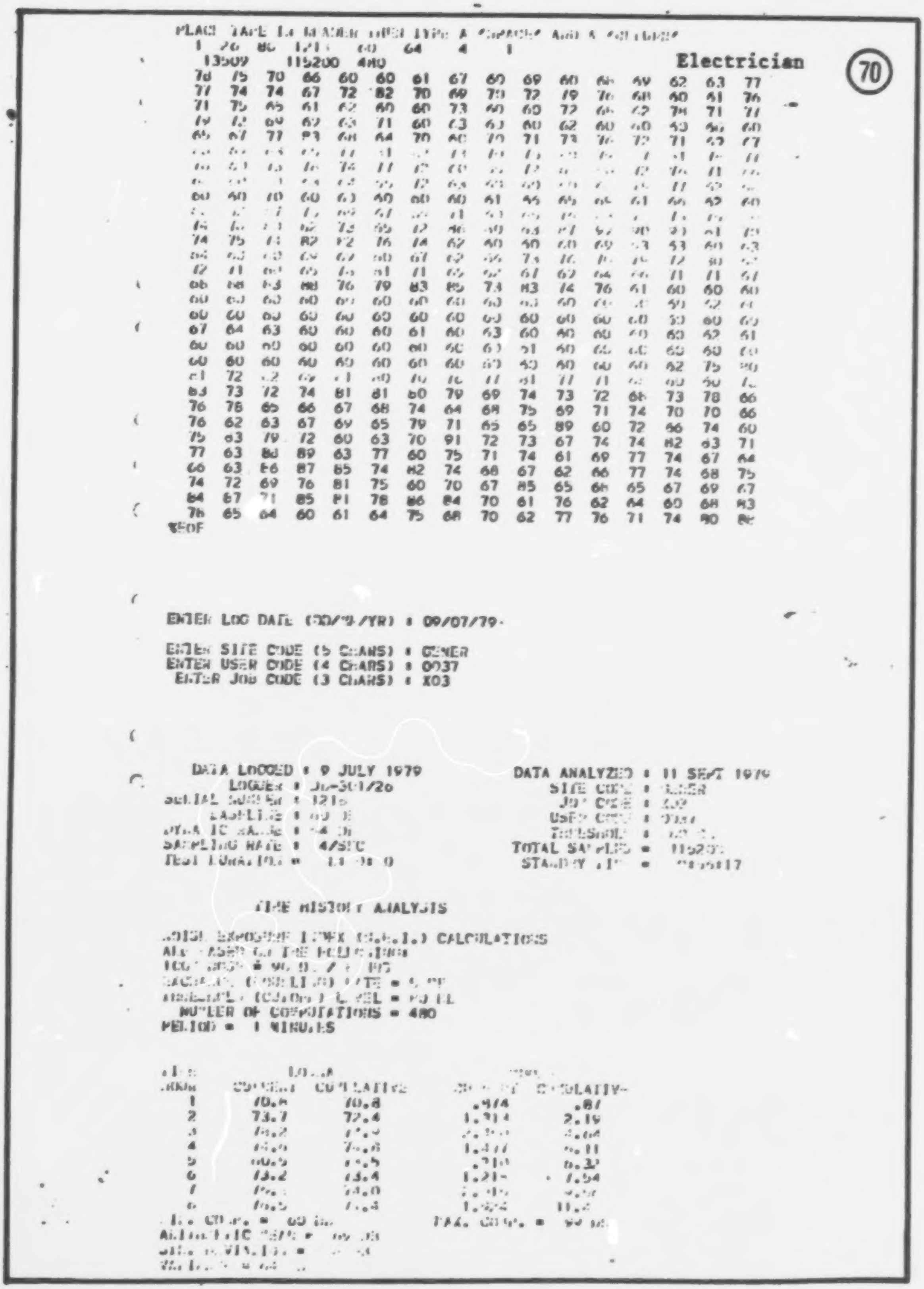
Number of computations = 480

⑥⑨

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





Electrician

⑦⓪

```
PLACE TAPE IN READER [illegible]
  1  26  80  1215   60   64   4   1
   13509      115200  480
  78  75  70  66  60  60  61  67  60  69  60  66  59  62  63  77
  77  74  74  67  72  82  70  69  73  72  79  76  68  60  61  76
  71  75  65  61  62  60  60  73  60  60  72  66  62  74  71  77
  79  72  69  62  63  71  60  63  63  60  62  60  60  53  56  60
  65  67  77  83  68  64  70  80  70  71  73  76  72  71  63  67
  [illegible]
  [illegible]
  [illegible]
  60  60  70  60  63  60  60  60  61  55  65  65  61  66  52  60
  [illegible]
  [illegible]
  74  75  73  82  82  76  74  62  60  50  60  69  63  53  60  63
  [illegible]
  72  71  60  65  75  51  71  65  62  61  62  64  66  71  71  67
  66  88  83  88  76  79  83  85  73  83  74  76  61  60  60  60
  60  60  60  60  60  60  60  60  60  63  60  60  60  50  52  61
  60  60  60  60  60  60  60  60  60  60  60  60  60  53  60  60
  67  64  63  60  60  60  61  60  63  60  60  60  60  60  52  61
  60  60  60  60  60  60  60  60  63  51  60  66  60  65  60  60
  60  60  60  60  69  60  60  60  60  50  60  60  60  62  75  80
  61  72  62  69  61  60  70  76  77  81  77  71  62  60  50  [illegible]
  63  73  72  74  81  81  60  79  69  74  73  72  66  73  78  66
  76  78  65  66  67  68  74  64  68  75  69  71  74  70  70  66
  76  62  63  67  69  65  79  71  65  65  89  60  72  66  74  60
  75  63  79  72  60  63  70  91  72  73  67  74  74  82  63  71
  77  63  88  89  63  77  60  75  71  74  61  69  77  74  67  64
  66  63  86  87  85  74  82  74  68  67  62  66  77  74  68  75
  74  72  69  76  81  75  60  70  67  85  65  66  65  67  69  67
  84  67  71  85  81  78  86  84  70  61  76  62  64  60  68  83
  76  65  64  60  61  64  75  68  70  62  77  76  71  74  80  86
$EOF


ENTER LOG DATE (MO/DY/YR) : 09/07/79

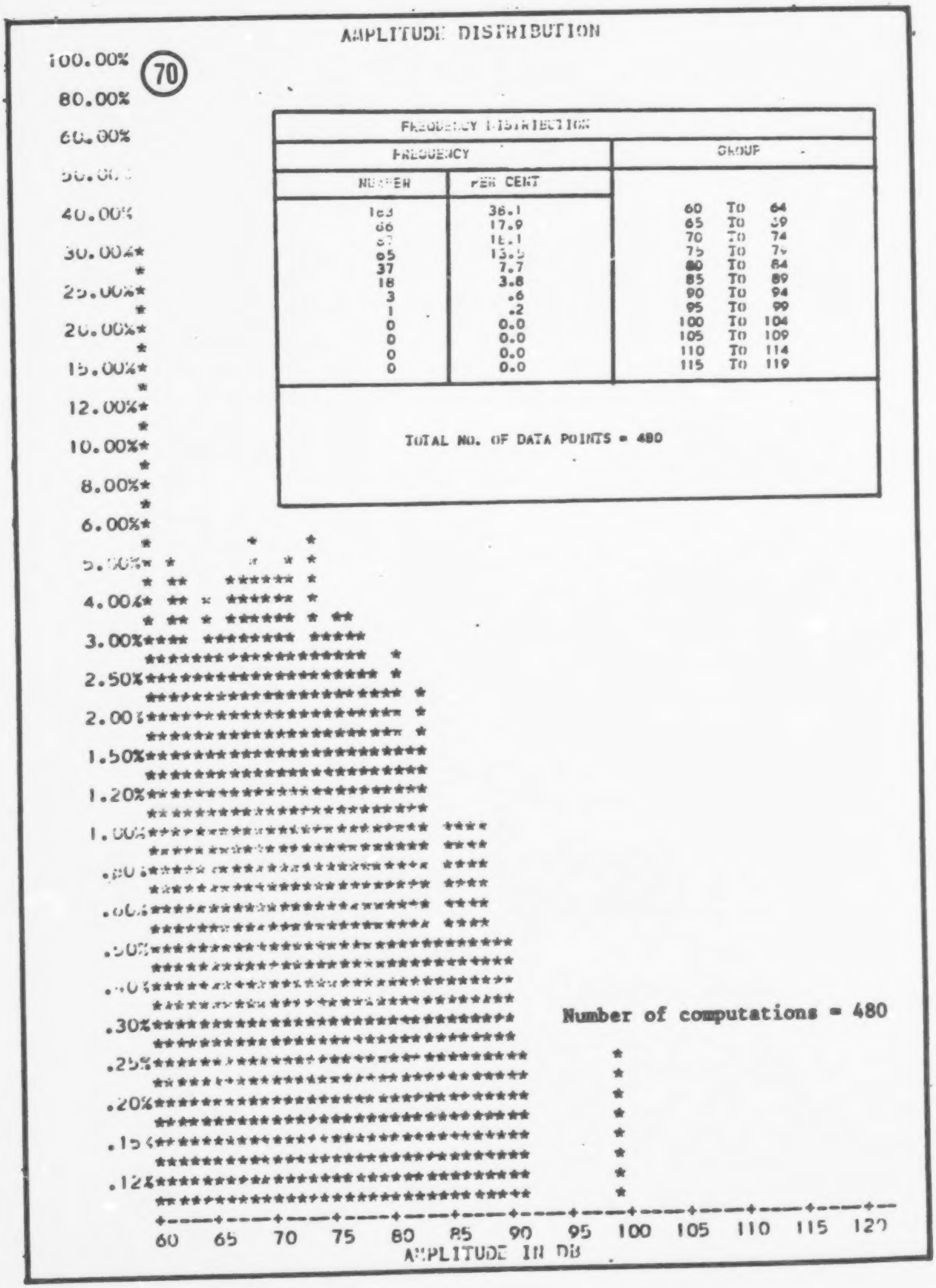
ENTER SITE CODE (5 CHARS) : GENER
ENTER USER CODE (4 CHARS) : 0037
 ENTER JOB CODE (3 CHARS) : X03


     DATA LOGGED : 9 JULY 1979                  DATA ANALYZED : 11 SEPT 1979
          LOGGER : DS-301/26                         SITE CODE : GENER
   SERIAL NUMBER : 1215                               JOB CODE : X03
        SAMPLING : 60 DB                             USER CODE : 0037
   DYNAMIC RANGE : 64 DB                             THRESHOLD : [illegible]
   SAMPLING RATE : 4/SEC                         TOTAL SAMPLES = 115200
   TEST DURATION =   [illegible]                   STANDBY TIME = [illegible]17


            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
[illegible]
[illegible]
[illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

[illegible]           [illegible]                  [illegible]
[illegible]   CURRENT   CUMULATIVE          [illegible]   CUMULATIVE
    1          70.8        70.8                .874         .87
    2          73.7        72.4               1.314        2.19
    3          [illegible]  [illegible]       [illegible]  [illegible]
    4          [illegible]  [illegible]        1.477       [illegible]
    5          [illegible]  [illegible]        .710        [illegible]
    6          73.2        73.4               1.21-        7.54
    7          [illegible]  [illegible]       [illegible]  [illegible]
    8          [illegible]  [illegible]       [illegible]   11.[illegible]
MIN. CONC. =  60 DB                  MAX. CONC. =  99 DB
[illegible]
[illegible]
[illegible]
```



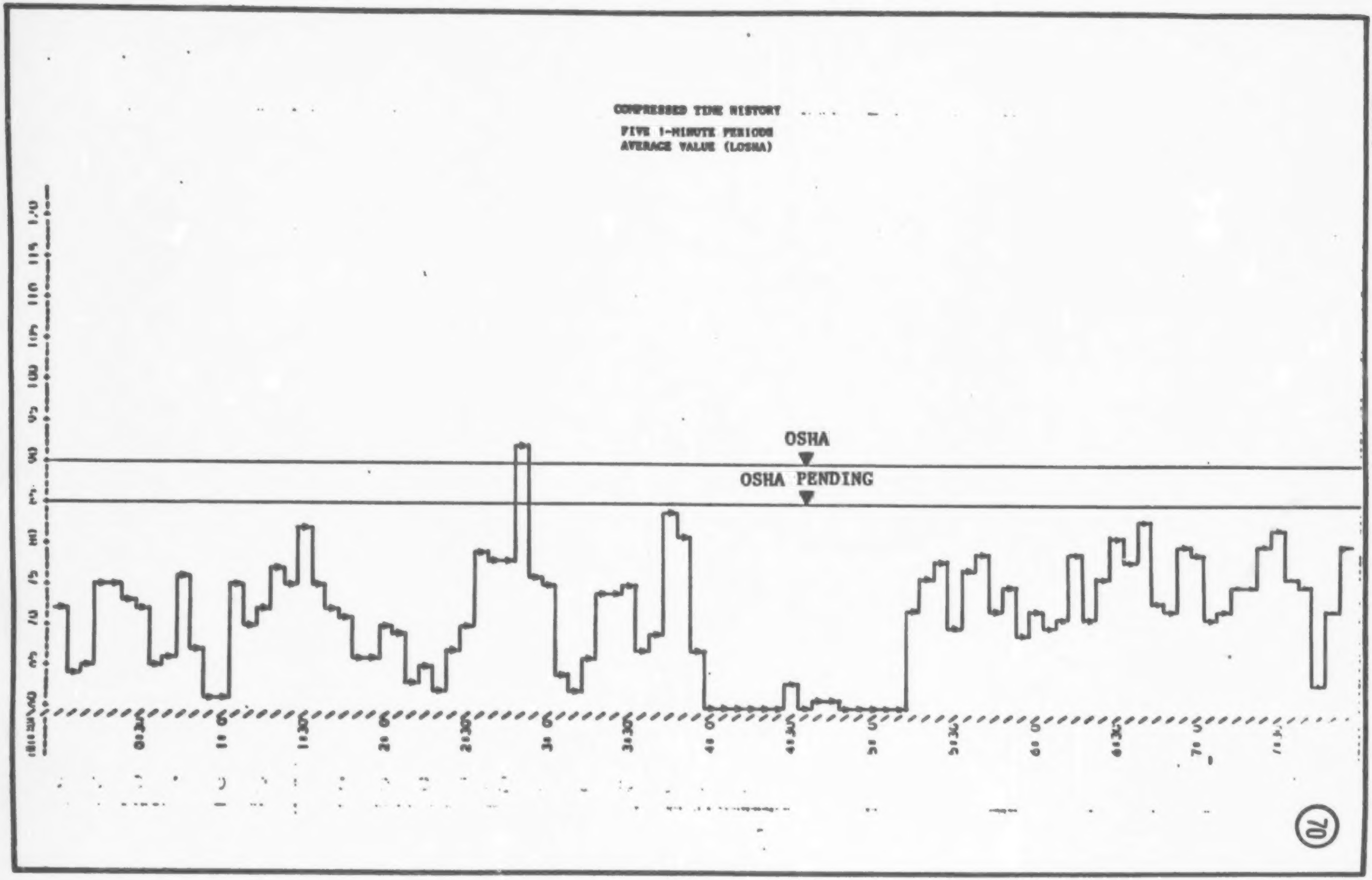
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
173	36.1	60 TO 64
86	17.9	65 TO 69
87	18.1	70 TO 74
65	13.5	75 TO 79
37	7.7	80 TO 84
18	3.8	85 TO 89
3	.6	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30
70

(71)

Electrician

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1224   60   64    4    1
  16042     115200  480
  75  75  83  83  93  93  83  83  77  85  93  85  73  72  62  65
  60  60  60  74  74  78  83  71  77  76  78  75  67  66  62  74
  69  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  62  68  73  70  60  60  60  60  61  62  60  70  73
  65  60  66  60  62  75  60  65  60  60  [illegible]  [illegible]  [illegible]  [illegible]  74  61
  67  65  66  80  79  60  60  61  60  60  60  60  60  60  63  60
  60  60  60  60  60  60  60  60  60  60  60  65  60  60  [illegible]  [illegible]
  60  60  60  60  64  60  76  89  60  60  60  60  60  60  60  60
  60  61  65  62  67  60  60  66  76  [illegible]  [illegible]  [illegible]  [illegible]  72  [illegible]  [illegible]
  90  83  83  74  80  82  82  84  90  80  83  83  84  84  83  82
  83  83  82  81  82  81  82  83  84  84  83  66  74  83  82  [illegible]
  85  80  84  82  77  79  71  76  61  60  60  66  73  60  [illegible]  [illegible]
  77  79  76  62  75  78  76  76  77  77  76  76  74  75  75  76
  76  76  74  75  76  75  75  76  75  78  81  79  79  81  82  81
  79  80  82  79  78  72  67  85  96  95  88  60  60  64  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  62  61  60  61  60  72  71  60  60  75  74  66  60  60  60
  60  60  60  60  60  60  60  60  60  62  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  74  63  60  [illegible]
  75  70  60  60  60  60  60  60  60  61  60  74  72  60  60  60
  61  60  60  60  60  60  60  60  60  60  60  60  62  61  60  60
  61  65  70  63  60  60  61  68  69  60  63  65  67  61  62  61
  69  62  60  60  60  60  73  60  60  60  67  63  60  72  62  61
  60  60  60  60  60  60  60  61  60  60  60  61  62  60  60  62
  60  60  67  60  62  61  64  61  62  62  66  68  74  73  60  60
  69  71  60  71  75  62  68  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  65  73  60  60  60  60  60  69  60  61
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  72  70  60  64  66  71  67  71  60  60  60  62  70
  66  74  69  67  62  63  69  64  65  63  71  61  [illegible]  60  [illegible]  71
[illegible]

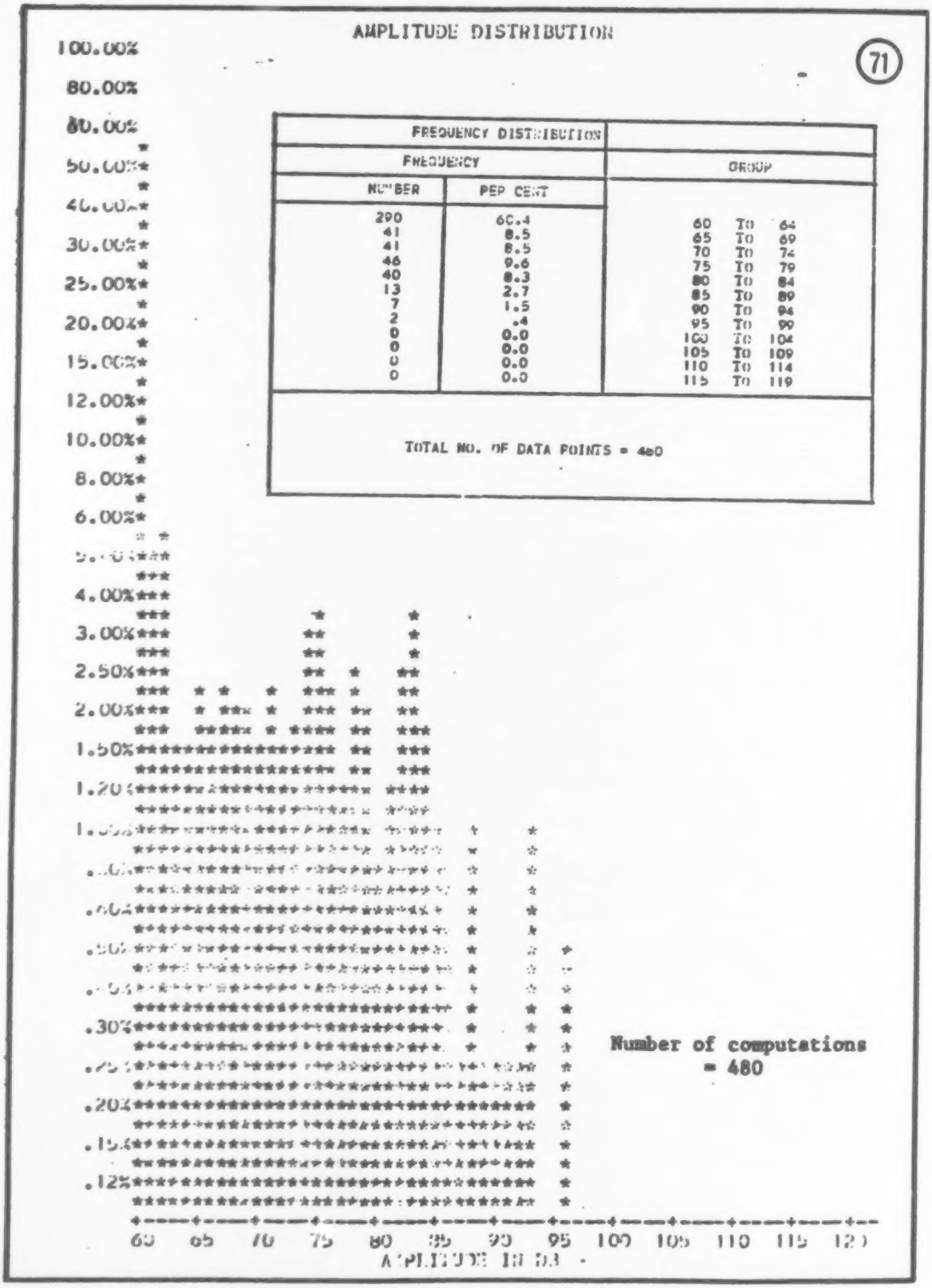

ENTER LOG DATE (DD/MO/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 0002
 ENTER JOB CODE (3 CHARS) : X03


   DATA LOGGED : 9 JULY 1979            DATA ANALYZED : 11 SEPT 1979
       LOGGER : [illegible]-301/26                SITE CODE : CRUSH
SERIAL NUMBER : 1224                         JOB CODE : X03
     BASELINE : 60 DB                       USER CODE : 0002
[illegible] : 64 DB                        THRESHOLD : [illegible]
SAMPLING RATE : 4/SEC                   TOTAL SAMPLES = 115200
[illegible] = [illegible]                   SAMPLE TIME = [illegible]

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
[illegible]
[illegible] (DOUBLING) RATE = [illegible]
THRESHOLD (CUT-OFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           [illegible]                     [illegible]
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
  1       77.2       77.2           2.121      2.12
  2       69.2       74.3            .701      2.82
  3       82.3       [illegible]     4.304      7.13
  4       79.3       78.4           2.[illegible]      9.95
  5       62.3       76.9            .270     10.22
  6       64.4       75.9            .357     10.58
  7       64.0       75.0            .341     10.92
  8       64.3       74.3            .382     11.30
MIN. COMP. =  60 DB               MAX. COMP. =  96 DB
ARITHMETIC MEAN =  66 DB
ST. DEVIATION =  [illegible]
[illegible] = [illegible]
```



AMPLITUDE DISTRIBUTION

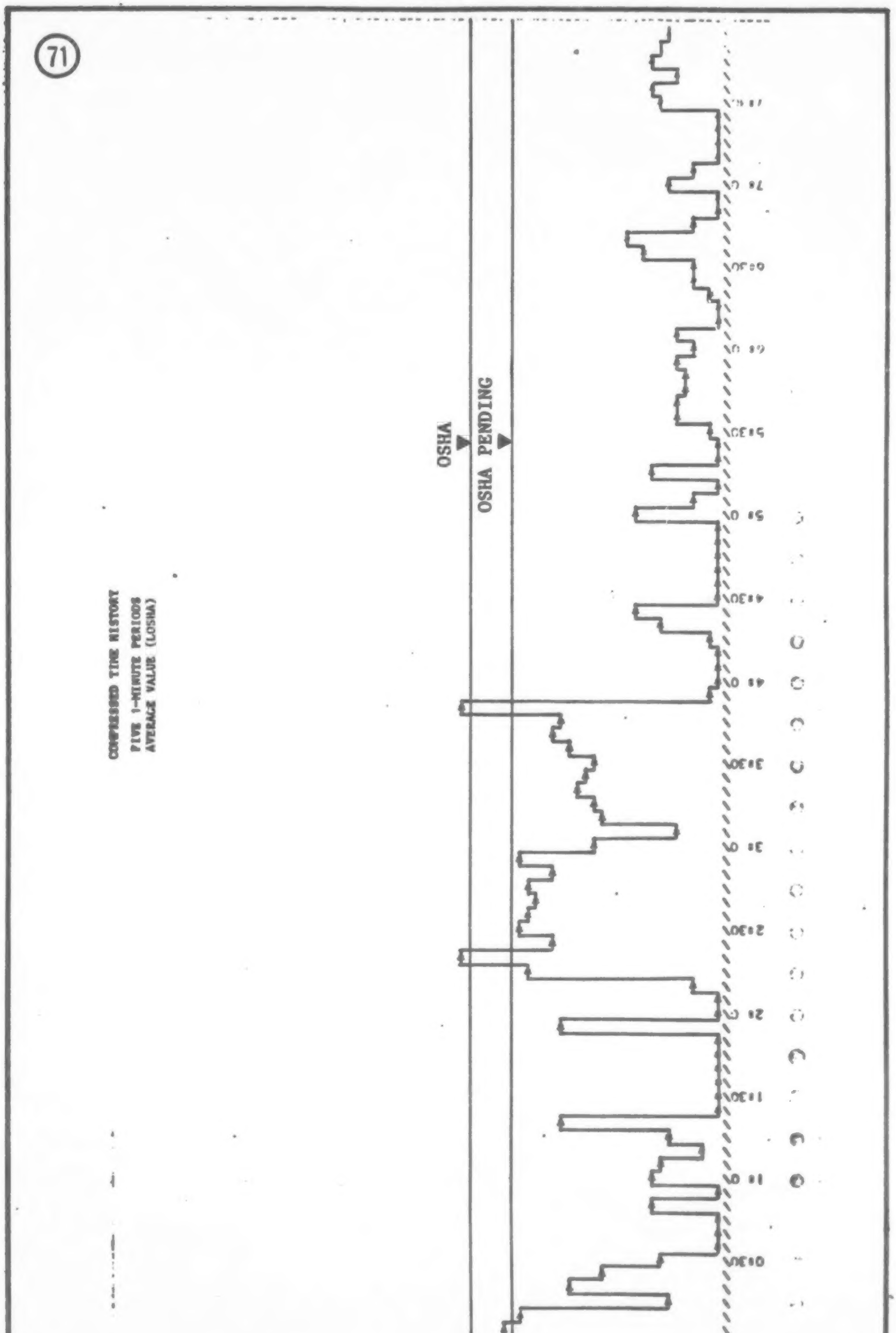
(71)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
290	60.4	60 TO 64
41	8.5	65 TO 69
41	8.5	70 TO 74
46	9.6	75 TO 79
40	8.3	80 TO 84
13	2.7	85 TO 89
7	1.5	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(71)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
BELOW 60
10:30
11: 0
11:30
12: 0
12:30
13: 0
13:30
14: 0
14:30
15: 0
15:30
16: 0
16:30
17: 0
17:30

Electrician

(72)

```
PLAC[illegible]
  1  26  80  1220    60    64    4    1
   14316       115200  4.0
  72  60  70  63  60  62  6   60  60  60  60  60  60  60  62  63
  82  86  85  61  64  67  70  84  84  83  83  83  82  85  83  84
  61  60  61  63  62  60  65  63  72  63  60  60  60  60  60  60
  60  60  60  60  60  68  60  70  66  64  60  [illegible]  60  61  60  75
  62  63  60  67  65  61  60  62  66  72  72  62  64  64  60  60
  60  64  75  70  60  62  71  66  62  73  65  66  61  64  64  63
  [illegible]
  60  60  60  60  60  60  [illegible]  61  66  64  [illegible]  [illegible]  72  71  76  [illegible]
  [illegible]  [illegible]  102  103  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  103  101  [illegible]
  94  97  97  97  [illegible]  99  [illegible]  [illegible]  [illegible]  93  97  96  96  97  99  [illegible]
  [illegible]
  96  66  60  61  [illegible]  60  62  66  67  69  76  73  74  71  77  [illegible]
  79  [illegible]  [illegible]  70  63  67  60  61  60  63  60  66  60  60  61  [illegible]
  [illegible]
  77  79  60  80  85  69  93  87  85  94  87  76  69  91  86  76
  67  72  66  86  81  89  79  61  61  91  77  60  60  64  60  60
  [illegible]
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  61  60  60  61  63  65  [illegible]  65  72  63  65  71  76  69  67  [illegible]
  61  63  63  60  60  63  60  60  67  60  60  [illegible]  60  62  60  [illegible]
  60  [illegible]  [illegible]  68  [illegible]  60  60  60  72  72  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
  61  62  60  60  65  76  61  75  73  60  76  77  70  61  72  66
  72  70  60  65  61  60  62  60  72  86  91  86  75  76  79  76
  72  76  89  91  91  83  60  64  60  78  95  94  79  96  96  95
  85  86  76  86  75  75  78  79  76  75  70  65  65  64  63  66
  65  64  67  64  67  70  75  72  73  71  70  62  64  73  75  73
  65  64  67  66  70  69  66  71  74  73  73  70  69  74  74  76
  76  76  76  74  66  71  71  76  72  74  73  72  76  62  69  65
  60  60  60  60  60  61  67  60  62  60  60  60  60  60  62  60
  60  60  60  60  60  61  60  64  60  60  60  60  63  68  60  60
XEOF



ENTER LOG DATE (DD/MM/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : CHUSJ
ENTER USER CODE (4 CHARS) : 0162
 ENTER JOB CODE (3 CHARS) : 093



   DATA LOGGED : 9 JULY 1979              DATA ANALYZED : 11 SEPT 1979
        LOGGER : [illegible]-301/26                 SITE CODE : CHUSJ
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[illegible]
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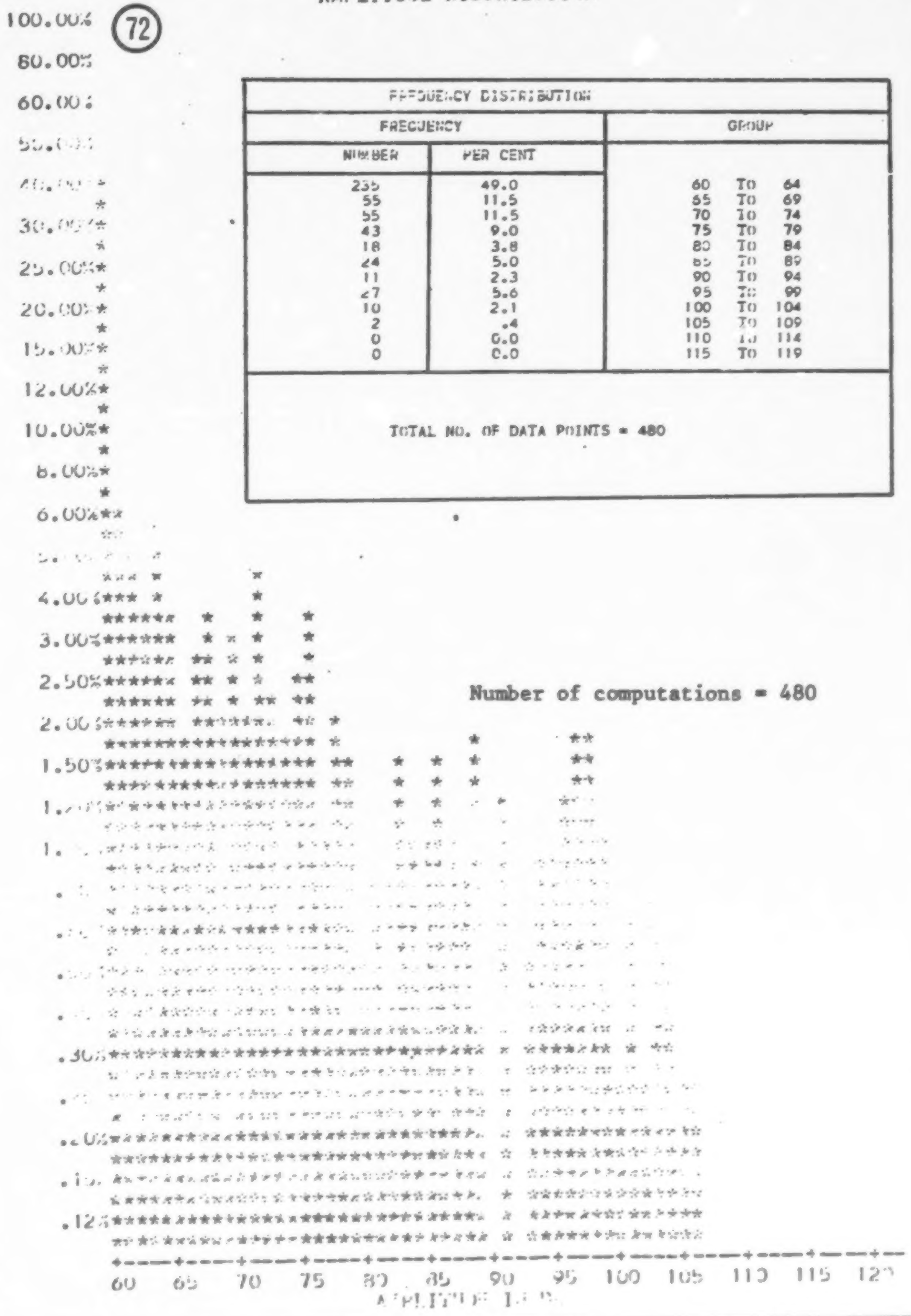
[illegible]                                S[illegible] =  [illegible]


          [illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
PERIOD =  1 [illegible]


[illegible]
[illegible]
   1        74.[illegible]       74.[illegible]          1.[illegible]      1.47
   2        64.6       70.8          .360      1.74
   3        [illegible]       [illegible]          [illegible]      [illegible]
   4        [illegible]       [illegible]          .11[illegible]      [illegible]
   5        71.[illegible]       [illegible]          [illegible]      [illegible]
   6        69.[illegible]       [illegible]          [illegible]      [illegible]
   7         2.7       [illegible]          [illegible]      41.[illegible]
   [illegible]
[illegible]                     [illegible]
[illegible] =  70.[illegible]
[illegible] =  1[illegible]
[illegible]
```

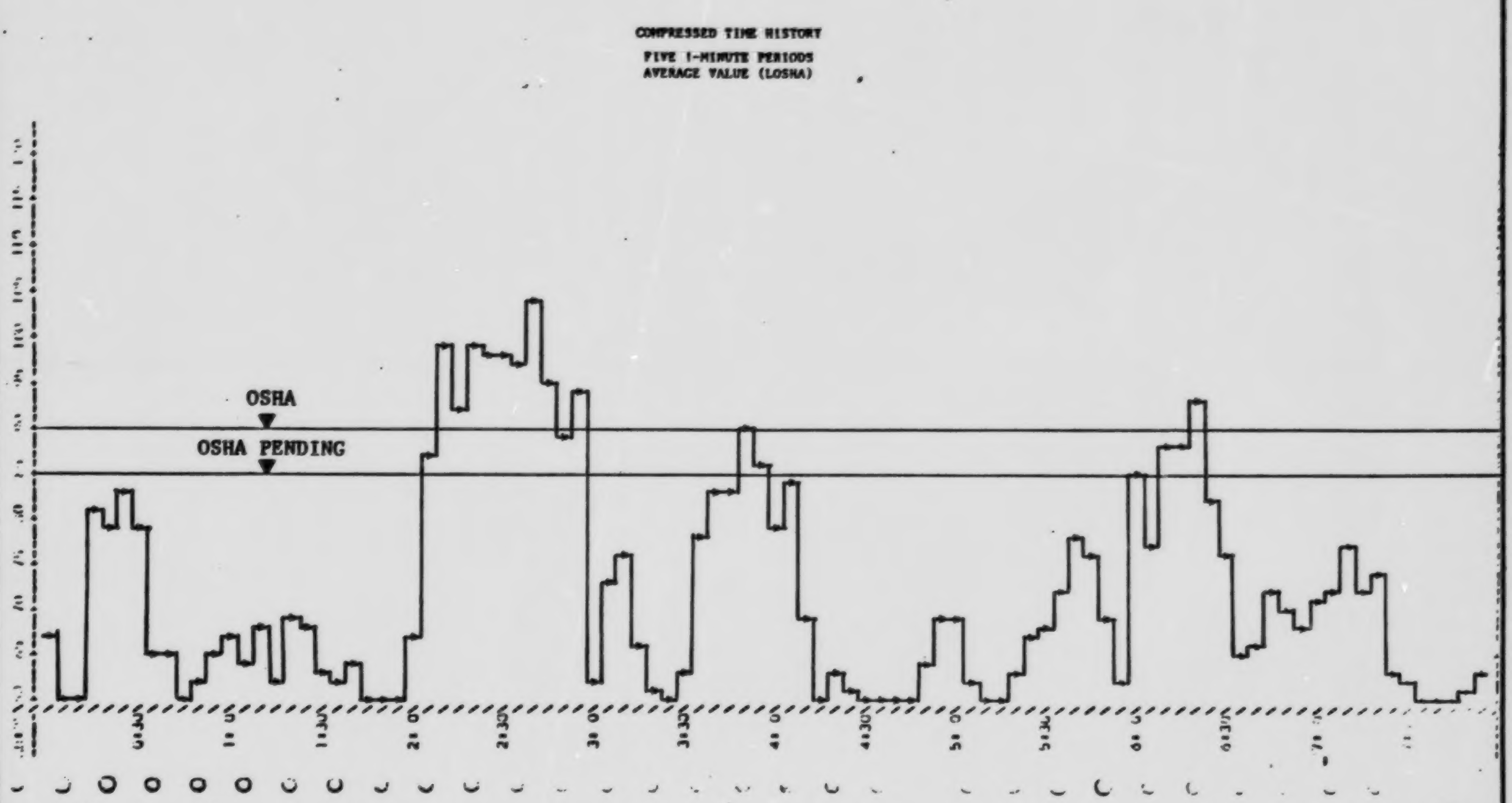
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
235	49.0	60 TO 64
55	11.5	65 TO 69
55	11.5	70 TO 74
43	9.0	75 TO 79
18	3.8	80 TO 84
24	5.0	85 TO 89
11	2.3	90 TO 94
27	5.6	95 TO 99
10	2.1	100 TO 104
2	.4	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

72

73

Electrician

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
  1  26  80  1216   60   64   4   1
   17092      115200  480
  66  67  71  63  69  67  64  72  81  84  86  91  80  63  71  76
  74  74  76  76  80  91  95  70  77  67  63  71  67  75  75  72
  70  66  60  70  66  64  75  69  70  69  73  76  73  72  75  63
  66  69  68  62  68  61  64  64  66  65  62  67  67  66  60  63
  63  73  65  61  64  65  65  63  60  64  65  63  61  67  60  62
  60  61  79  83  82  86  85  84  84  83  85  82  82  82  84  85
  [illegible]
  [illegible] [illegible] [illegible]  77  60  60  60  62  61  60  61  62 [illegible] [illegible] [illegible]  60
  61  62  64  60  60  60 [illegible]  65 [illegible] [illegible] [illegible]  85 [illegible] [illegible]  60 [illegible]
  67  60  60  70  60  60  60  68  65  74  62  62 [illegible]  60  60  60
  79  73  71 [illegible]  70  61  60 [illegible]  63 [illegible] [illegible] [illegible] [illegible] [illegible]  73  79
  [illegible]  86  87  86  86  87  86 [illegible] [illegible]  85  87 [illegible]  87 [illegible] [illegible] [illegible]
  89  87  86  88  87  89  88  87  87  88  87  89  89  88  88  87
  87  89  90  85  90 [illegible] [illegible]  89  90  90 [illegible]  89 [illegible]  89 [illegible]  91
  88  89  89  88  87  86  83  83 [illegible]  86  91  91  91  91  92  92
  90  98  93  97  97  99  98  96  99  98  96  95  92  89  90  89
  [illegible] [illegible]  80 [illegible]  77  63  60  68  60  73  62  61  61  60  62  60
  60  60  60  60  70  60  61  60  60  60  67  65  60  61  60  63
  60  62  66  60  70  63  61  61  60  61  60  60  60  60  62  61
  63  63  70  70  63  71  70  84  86  90  87  87  91  95  98  94
  94  93  90  87  87  86  89  96  95  89  87  86  86  90  84  66
  65  60  60  60  60  65  60  60  60 [illegible]  60  75  70  72  66 [illegible]
  61  61  64  61  84  76  82  80  82  81  82  61  83  81  82  82
  81  80  83  81  82  77  78  79  83  82  74  62  81  81  79  81
  78  76  77  87  90  90  89  89  95  97  96  97  97  97  98  96
  98  99  98  98  97  96  95  95  96  96  94  94  95  95  95  95
  95  95  95  97  97  96  95  95  92  65  72  83  83  76  94  97
  94  94  94  96  94  94  95  95  95  95  95  95  95  98  99  96
  96  96  95  96  96  98  97  96  98  97  97  97  97  98  97  99
 100 101 100  99  99 100 101 101  99  98  98  98  99  99  98  98
*EOF


ENTER LOG DATE (MM/DD/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : HOIRM

ENTER USER CODE (4 CHARS) : 0151
 ENTER JOB CODE (3 CHARS) : 003

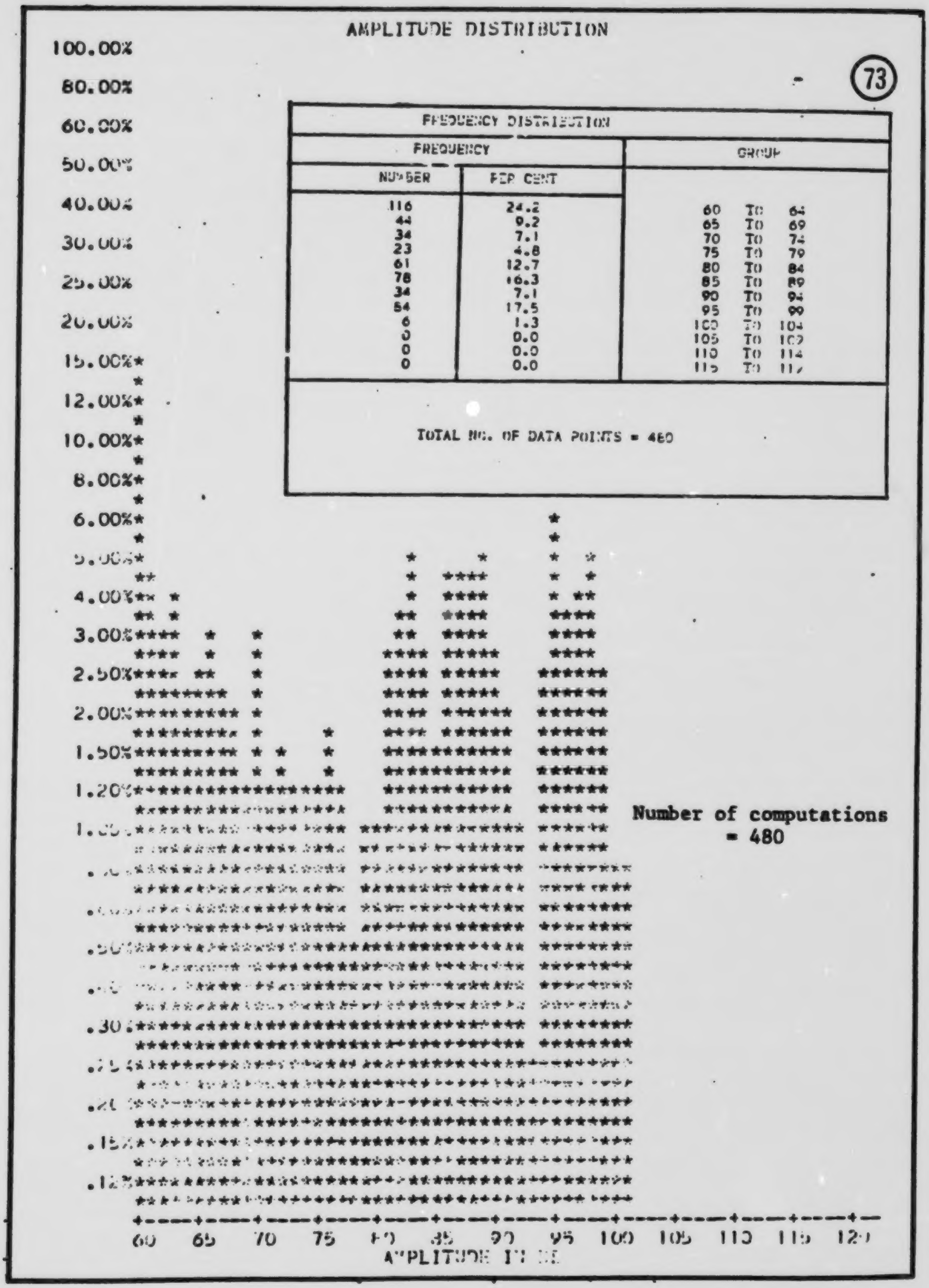


     DATA LOGGED : 9 JULY 1979           DATA ANALYZED : 11 SEPT 1979
          LOGGER : DS-301/26                 SITE CODE : HOIRM
   SERIAL NUMBER : 1216                       JOB CODE : 003
        BASELINE : 60 DB                     USER CODE : 0151
   DYNAMIC RANGE : 64 DB                     THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  115200
   TEST DURATION =   8:00:0               STANDBY TIME =   1:13:43

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1       76.7       76.7             1.971       1.97
   2       79.4       78.2             2.871       4.84
   3       73.1       76.8         [illegible] [illegible]
   4       88.2       81.7             9.604      15.85
   5       87.1       83.2             8.339      24.19
   6       84.6       83.5             6.063      30.26
   7       92.0       85.5            16.445      46.70
   8       96.6       88.2            31.344  [illegible]
MIN. COMP. =  60 DB                 MAX. COMP. = 101 DB
ARITHMETIC MEAN =  7[illegible] DB
STD. DEVIATION =  13 DB
VARIANCE =[illegible] DB
```



AMPLITUDE DISTRIBUTION

(73)

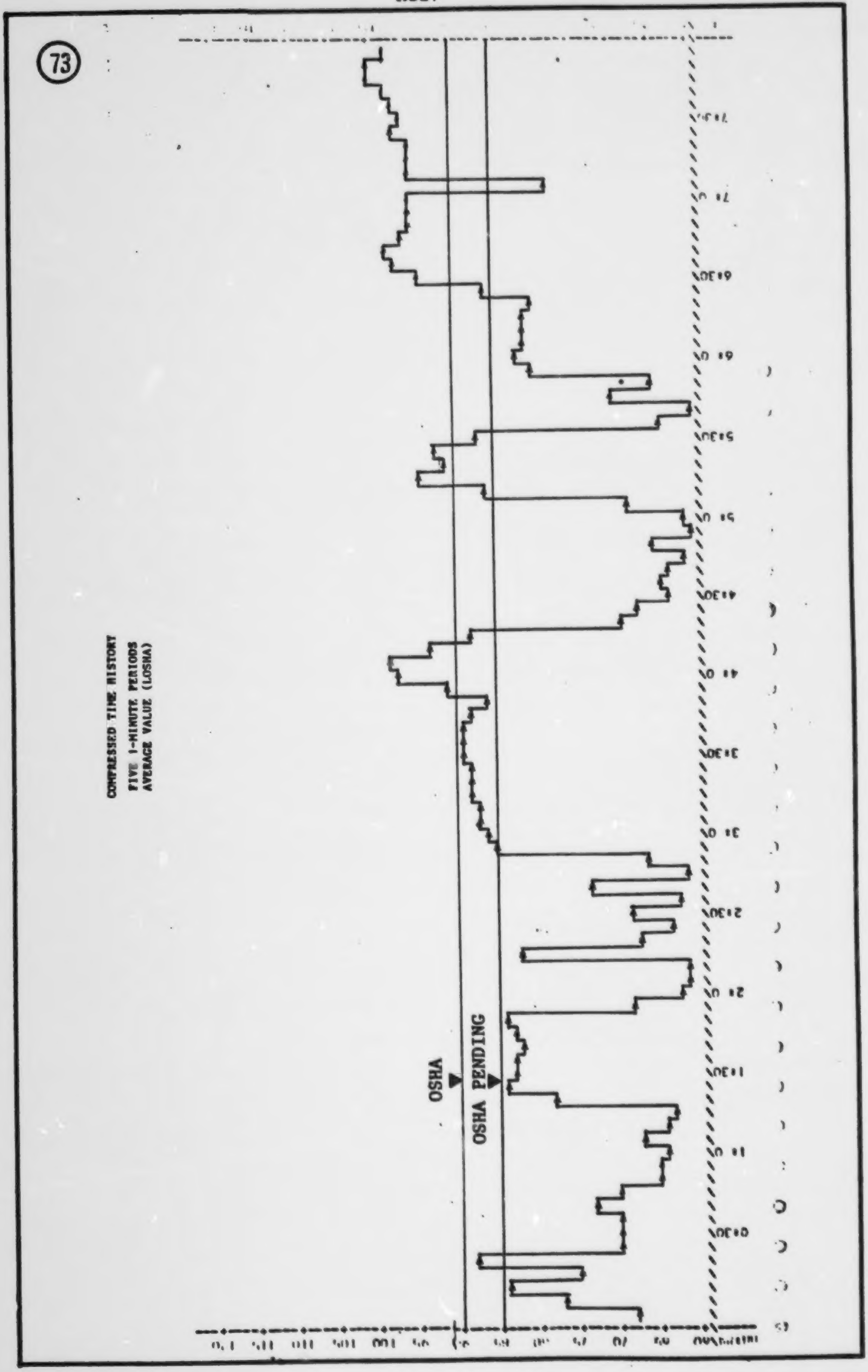
FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
116	24.2	60 TO 64
44	9.2	65 TO 69
34	7.1	70 TO 74
23	4.8	75 TO 79
61	12.7	80 TO 84
78	16.3	85 TO 89
34	7.1	90 TO 94
84	17.5	95 TO 99
6	1.3	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(73)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0
7:30

Electrician

(74)

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
 1  26  80  1212   60   64    4    1
 20363     115200  480
 60  61  68  71  81  74  75  60  64  60  60  62  60  60  60  60
 60  64  76  83  93  95  92  78  72  93  92  93  94  94  83  76
 61  60  60  60  60  60  60  62  60  60  60  63  78  88  87  74
 30  60  60  62  72  63  60  63  62  81  80  61  72  73  30  60
 60  60  67  72  60  60  64  61  61  59  66  69  67  73  64  69
 [illegible]
 73  70  [illegible]  62  65  69  60  60  60  60  [illegible]  61  [illegible]  70
 60  60  60  60  63  62  69  66  63  63  60  65  [illegible]  75  [illegible]  70
 80  60  60  63  62  66  69  61  69  62  68  60  71  60  61  60
 [illegible]  71  [illegible]  73  75  60  60  [illegible]  60  [illegible]  74
 [illegible]  72  65  61  60  60  59  [illegible]  67  72  71  [illegible]
 60  63  72  77  73  65  60  60  60  63  60  60  60  76  62  77
 73  [illegible]  60  60  60  60  60  60  59  60  [illegible]  72
 73  76  67  72  71  59  [illegible]  70  69  [illegible]  71  [illegible]
 60  66  64  60  69  61  67  68  71  70  64  69  72  69  66  70
 72  63  73  61  62  60  62  60  62  62  66  61  70  59  71  62
 63  69  60  65  64  60  60  60  60  50  60  60  60  60  50  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  59  60
 60  60  60  65  60  66  71  70  71  69  69  69  75  66  75  78
 73  67  [illegible]  62  [illegible]  60  [illegible]  67  75  75  73  [illegible]
 64  67  75  77  70  75  71  69  77  65  70  72  68  70  66  65
 66  72  72  66  67  66  66  69  62  61  67  71  65  69  64  68
 68  60  69  63  63  62  60  60  73  60  64  64  61  61  60  60
 71  69  76  74  63  60  68  67  65  61  67  68  65  55  62  60
 61  60  60  73  71  65  60  66  65  63  73  76  80  81  79  71
 61  63  61  61  69  61  79  64  63  64  60  67  66  79  73  73
 75  62  63  67  61  60  60  60  70  72  63  60  76  79  60  60
 60  60  60  60  63  63  60  66  65  60  62  60  68  61  75  76
 61  60  65  64  68  72  93  65  60  60  62  64  63  71  67  65
*EOF

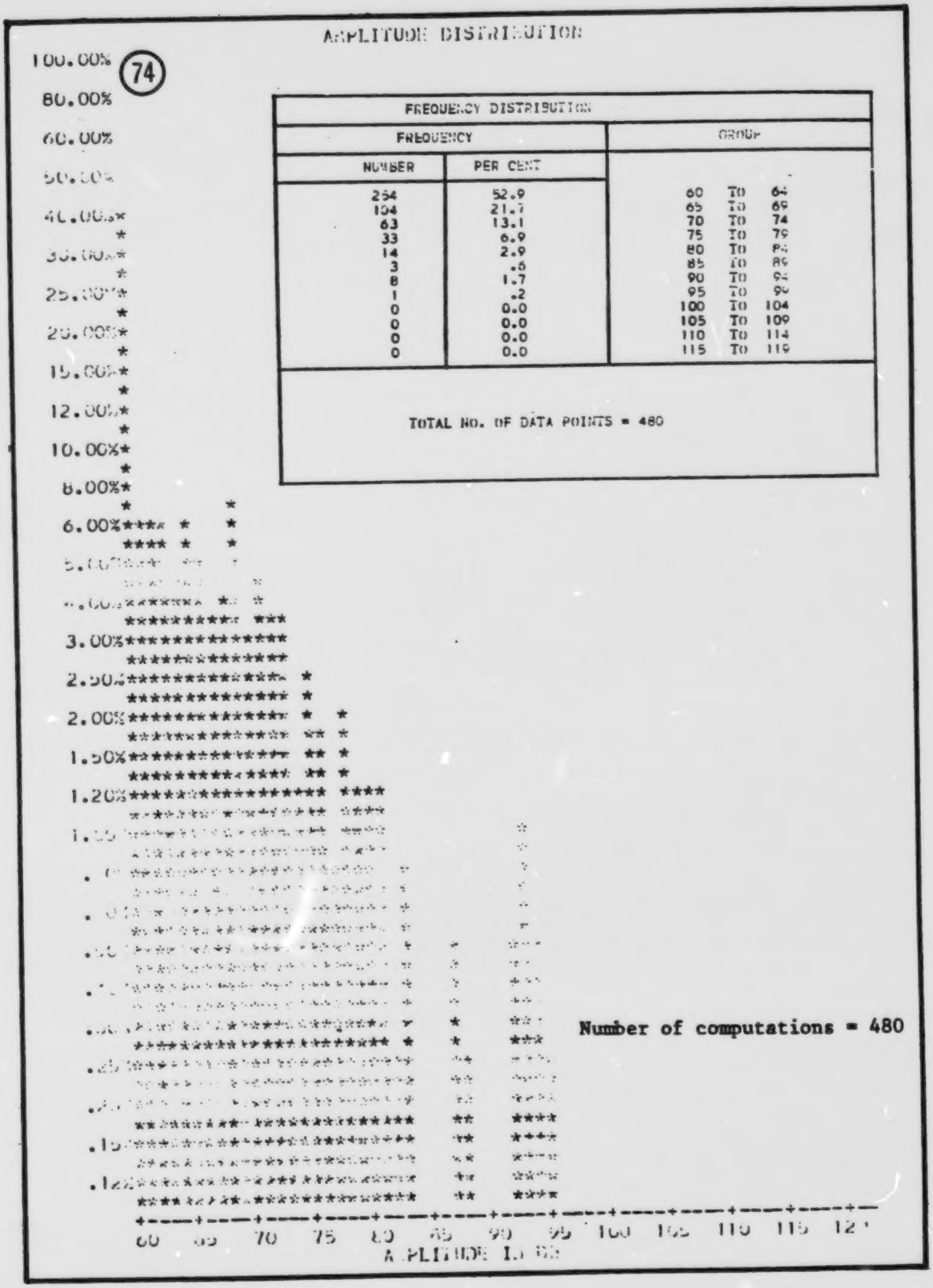

ENTER LOG DATE (MO/DY/YR) : 09/07/79
ENTER SITE CODE (5 CHARS) : CRUSH
ENTER USER CODE (4 CHARS) : 9591
 ENTER JOB CODE (3 CHARS) : X03


    DATA LOGGED : 9 JULY 1979                 DATA ANALYZED : 11 SEPT 1979
         LOGGER : [illegible]-201/25               SITE CODE : CRUSH
  SERIAL NUMBER : 1214                              JOB CODE : X03
       [illegible]                                 USER CODE : 9591
       [illegible]                               [illegible]
       [illegible]                             TOTAL SAMPLES = 115200
       [illegible]                              STANDBY [illegible]

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
[illegible]
[illegible]
[illegible]
[illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

[illegible]
 HOUR      [illegible]     CUMULATIVE      [illegible]
    1         61.3           61.3           [illegible]        3.72
    2         66.1           77.2             .494             4.21
    3      [illegible]     [illegible]      [illegible]       [illegible]
    4      [illegible]     [illegible]      [illegible]       [illegible]
    5      [illegible]       73.1           [illegible]       [illegible]
    6         66.3           72.6             .711             6.14
    7      [illegible]     [illegible]      [illegible]       [illegible]
    8         71.1         [illegible]      [illegible]       [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```



AMPLITUDE DISTRIBUTION

(74)

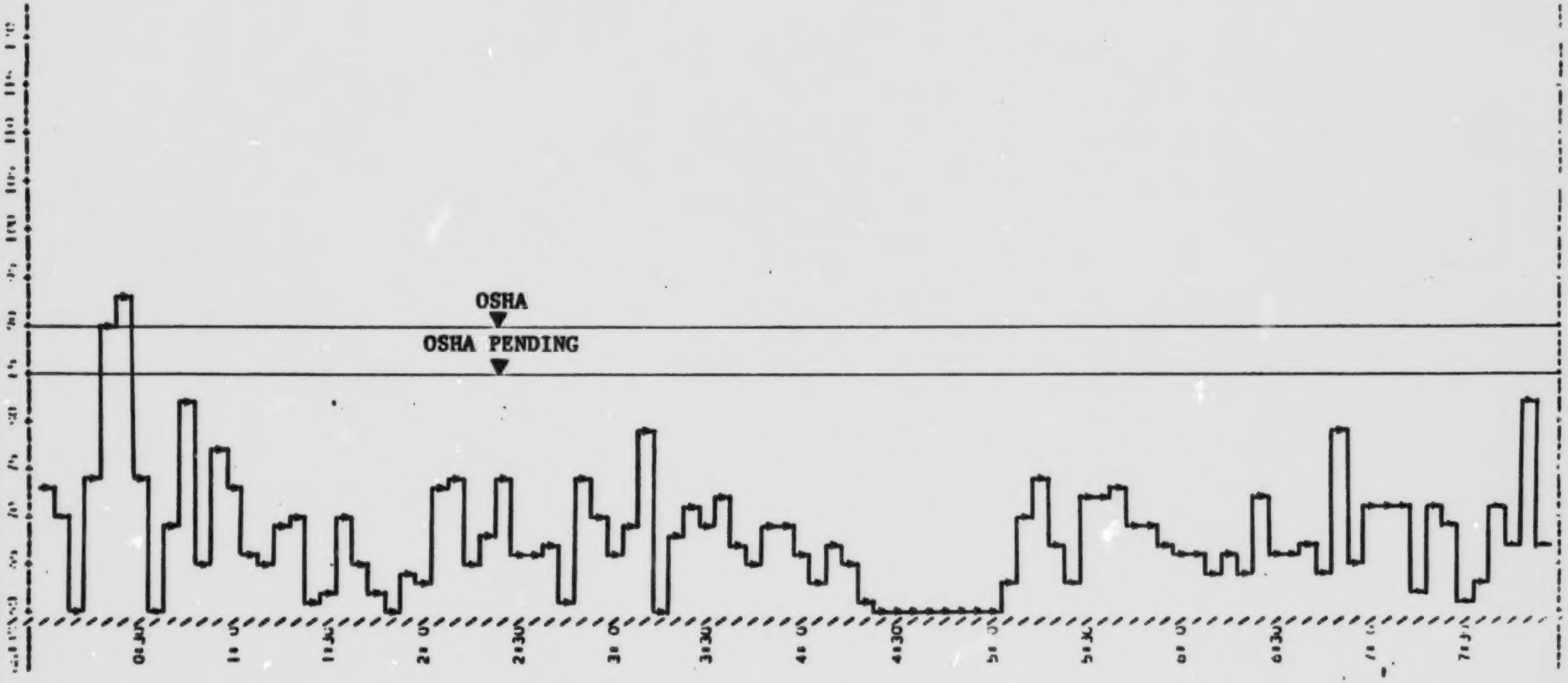
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
254	52.9	60 TO 64
104	21.7	65 TO 69
63	13.1	70 TO 74
33	6.9	75 TO 79
14	2.9	80 TO 84
3	.6	85 TO 89
8	1.7	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(74)

Energy, Mines and
Resources Canada

Énergie, Mines et
Ressources Canada

CANMET

Canada Centre for
Mineral and Energy
Technology

Centre canadien de la
technologie des
minéraux et de l'énergie

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minière**

Canada

NOISE AND VIBRATION IN MINES
RESEARCH REPORTS 1972-1986

edited by G. Knight ***traduit par N.R Billette***

Volume 4B MRL 88–119B (R)

MICROMEDIA

Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

CANMET
Canada Centre for Mineral and Energy Technology
Centre canadien de la technologie des minéraux et de l'énergie

NOISE AND VIBRATION IN MINES RESEARCH REPORTS: 1972-1986.
BRUIT ET VIBRATION DANS MINES RAPPORTS DE RECHERCHE
VOLUME 4—Part B—MILL AND SURFACE PLANT NOISE SURVEYS
Partie B—RELEVÉS DE BRUITS D'USINES ET ATELIER

Edited by G. KNIGHT
Canadian Mine Technology Laboratory

Traduit par N.R. Billette
Laboratoire canadien de technologie minière

MARCH 1988

MARS 1988

MINING RESEARCH LABORATORIES
DIVISIONAL REPORT MRL 88–119B (R)

LABORATOIRES DE RECHERCHE MINIÈRE
RAPPORT DE DIVISION LRM 88–119B (R)

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Noise measurement in the assay laboratory
at Denison Mines Ltd. in Elliot Lake

1981

MESURE DU BRUIT DANS LE LABORATOIRE D'ESSAIS DE LA DENISON MINES LTD. À ELLIOT LAKE

M.U. Savich*

RÉSUMÉ

Le bruit dans le laboratoire d'essais provient de la centrale électrique. Le bruit est élevé aux basses fréquences (93,5 dBA) et faible aux fréquences élevées (63,3 dBA). Pour cette raison, il y a une forte pénétration du bruit dans l'installation d'essais. Les mesures du bruit dans l'installation d'essais montrent des niveaux presque égaux (L_{eq} = 60,2 ± 0,45 dBA). Le niveau de pression acoustique est de 68,6 dBA ± 3,3 dBA, avec une crête de 74,7 dBA. Le niveau de bruit admissible pour ce type de bureau est de 60 à 65 dBA. Les employés du laboratoire d'essais croient que le niveau de bruit est trop élevé et qu'il a des effets négatifs sur leur travail.

On a obtenu des valeurs de l'indice d'exposition au bruit (IEB) pour lesquelles les L_{OSHA}, lorsqu'ils sont comparés, correspondent étroitement aux valeurs obtenues par d'autres ométhodes :

$$((L_{OSHA} = 63{,}4 \pm 3 \text{ dBA}) \simeq (L_{eq} = 60{,}5 \pm 0{,}5 \text{ dBA})).$$

La meilleure solution pratique dans ce cas consiste à porter des protecteurs d'oreilles "Propp-o-Plast" Bilsom. Ces protecteurs sont confortables et ne nuisent pas à la communication verbale. Une solution permanente et préférable est le déménagement du laboratoire d'essais.

---

*Chercheur scientifique, Laboratoire d'Elliot Lake, Laboratoires de recherche minière, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENT IN ASSAY LABORATORY AT DENISON MINES LTD. IN ELLIOT LAKE

by

M.U. SAVICH*

ABSTRACT

Noise in the assay laboratory originates in the power house. The noise is high at low frequencies (93.5 dBA), and low at high frequencies (63.3 dBA). Because of this, there is great penetration of noise into the assay plant. The measurements of noise in the assay plant show nearly equal levels (L_{eq} = 60.2 ± 0.45 dBA). The sound pressure level is 68.6 ± 3.3 dBA with a peak of 74.7 dBA. The permissible noise level for this type of office is 60-65 dBA. Assay laboratory employees feel that the level of noise is too high and that it affects their work negatively.

Values of noise exposure index (NEI) were obtained whose L_{OSHA}, when compared, are in close agreement to those obtained with other techniques:

$$((L_{OSHA} = 63.4 \pm 3 \text{ dBA}) \approx (L_{eq} = 60.5 \pm 0.5 \text{ dBA})).$$

The best practical solution in this case is use of Bilsom "Propp-o-Plast" hearing protectors. These protectors are comfortable and do not interfere with verbal communication. Relocation of the assay laboratory is a permanent and best solution.

---

* Research Scientist, Elliot Lake Laboratory, Mining Research Laboratories, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario.

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INTRODUCTION

The assay laboratory location was not well chosen. It is situated near the power house, a large source of noise. Noise at main frequencies between the assay laboratory and power house is:

63	125	250	500	1K	2K	4K	8K	dBA	dBA*
93.5	93.5	93.5	85	75.5	67	64	62.5	91.5	87.4

Note: * - total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with the measured total noise indicates reasonably constant conditions during period of measurement.

The measurement indicates that there is no agreement between dBA measured and dBA estimated. During measurement noise varied widely. It can be seen from the spectrum that noise at low frequencies is high, and at high frequencies is low.

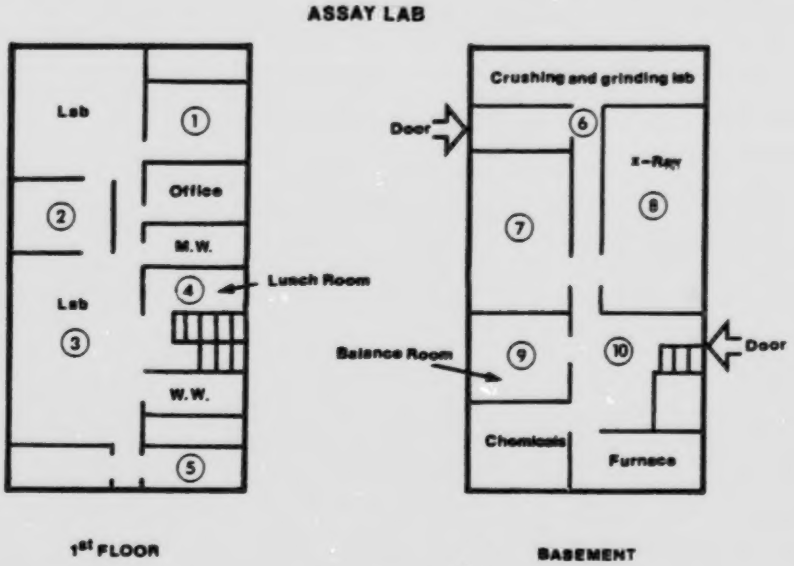
Clearly, the penetration of noise into the assay laboratory is high. The walls do not act as a barrier to low frequency penetration.

NOISE IN ASSAY LABORATORY

Noise measurements in the assay laboratory were carried out in the basement and on the first floor (Table 1). Measurements show approximately the same noise level (68.6 ± 3.3 dBA). Noise equivalent level (Leq) is below the sound pressure level by 8 dBA, and below the maximum level (L_{max}) by 14 dBA. Normally, all three measurements would be approximately equal. This once more confirms the steady presence of low frequencies and their instability during measurement.

Noise level of 69 dBA is not in the range where there is risk of hearing damage (OSHA). Canada has no standard for offices and laboratories,

Table 1 - Results of noise measurements in assay laboratory of the sound pressure level, peak sound pressure level and equivalent sound level.


ASSAY LAB
Lab
①
Office
②
M.W.
④
Lunch Room
Lab
③
W.W.
⑤
1st FLOOR
Crushing and grinding lab
Door
⑥
X-Ray
⑧
⑦
Balance Room
⑨
⑩
Door
Chemicals
Furnace
BASEMENT

Measur. No.	dBA		
	SPL	L_{max}	L_{eq}
1	68	73	60
2	65	74	61
3	70	78	61
4	67	74	61
5	73	76	61
Mean	68.60	75.00	60.80
Std.Dev	3.05	2.00	0.42

Measur. No.	dBA		
	SPL	L_{max}	L_{eq}
6	71	78	60
7	67	77	60
8	64	71	61
9	67	69	60
10	74	77	60
Mean	68.60	74.40	60.20
Std.Dev	3.81	4.10	0.45

Measur. No.		dBA		
		SPL	L_{max}	L_{eq}
Σ1-10	Mean	68.60	74.70	60.50
	Std.Dev	3.31	3.06	0.53

but the limit of 60-65 dBA is taken since this is the speech level. The limit for offices engaged in intensive telephone conversation is 55 to 60 dBA. The data indicates that we are at the limit of permissible noise. Assay laboratory employees feel that noise is high and that it affects their work efficiency and personal comfort negatively.

MEASUREMENT OF NOISE EXPOSURE INDEX

The laboratory has great working discipline. This is evident from the amplitude distribution graph (time) and the time history graph (time/level) (Appendix 1). Technician No.22's test in Table 2 was not taken into account for two reasons:

1) The technician was permanently working in the crushing and grinding laboratory where there is steady noise; and
2) The machines must be stopped 30 to 50 minutes towards the end of the shift in order to be cleaned. Since there is no noise during this period, the time history graph is misleading.

Chemist No. 1 and Technician No. 8 kept their dosimeters in one place. Their time history graphs do not show differences in noise which arise from moving about. This test was not rejected since noise level fluctuates around 60 dBA (see L_{OSHA} and L_{eq}) and these two results do not influence the final result. Seven technicians were tested twice because they complained strongly about the high level of noise in the laboratory.

CONCLUSIONS AND RECOMMENDATIONS

The noise in the assay laboratory comes from the power house. The noise is mostly low frequency against which protection is very difficult, expensive and even ineffective. The noise fluctuates in the permissible range

Table 2 - Results of L_{OSHA} and time during work day

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
1	905N	CMT	Chemist	475	60.3	471	9	0	0	0	0	0	0	0	0	0	0	480
2	9754	SLT	Sr. Lab. Tech.	480	61.6	444	23	9	3	1	0	0	0	0	0	0	0	480
3	9883	SLT	Sr. Lab. Tech.	480	66	349	61	47	15	8	0	0	0	0	0	0	0	480
4	9833	SLT	Sr. Lab. Tech.	480	61.6	444	23	11	2	0	0	0	0	0	0	0	0	480
5	9836	OLT	Lab. Tech.	480	62.2	441	22	14	1	1	1	0	0	0	0	0	0	480
6	9843	OLT	Lab. Tech.	480	63.9	415	27	18	18	2	0	0	0	0	0	0	0	480
7	9706	OLT	Lab. Tech.	480	64.6	386	55	22	13	2	2	0	0	0	0	0	0	480
8	9713	OLT	Lab. Tech.	480	60.2	479	0	0	1	0	0	0	0	0	0	0	0	480
9	9807	OLT	Lab. Tech.	480	61.2	443	32	5	0	0	0	0	0	0	0	0	0	480
10	9713	OLT	Lab. Tech.	480	63.8	405	38	21	14	2	0	0	0	0	0	0	0	480
11	9743	LAT	Lab. Tech.	480	66.6	328	70	47	30	5	0	0	0	0	0	0	0	480
12	9754	LAT	Lab. Tech.	466	65.5	361	73	31	9	4	2	0	0	0	0	0	0	480
13	9711	LAT	Lab. Tech.	473	61.2	454	18	7	1	0	0	0	0	0	0	0	0	480
14	9843	LAT	Lab. Tech.	475	63.9	404	45	24	6	0	0	1	0	0	0	0	0	480
15	9704	LAT	Lab. Tech.	463	72.3	279	73	58	42	25	1	0	0	1	1	0	0	480
16	9724	LAT	Lab. Tech.	480	62.1	458	14	2	3	2	1	0	0	0	0	0	0	480
17	9807	LAT	Lab. Tech.	480	63.9	394	58	19	6	2	1	0	0	0	0	0	0	480
18	9733	LAT	Lab. Tech.	479	69	357	72	27	12	2	6	4	0	0	0	0	0	480
19	9733	OLT	Lab. Tech.	480	63.8	351	74	26	12	2	11	4	0	0	0	0	0	480
20	9891	JLT	Jr. Lab. Tech.	480	60.9	462	13	4	0	1	0	0	0	0	0	0	0	480
21	9881	OLT	Jr. Lab. Tech.	480	61.4	458	11	5	5	1	0	0	0	0	0	0	0	480
22	972G	OLT	Jr. Lab. Tech.*	477	83.1	169	42	34	38	54	90	44	9	0	0	0	0	480
23	972E	LTR	Lab. Trainee	480	60.6	469	9	0	2	0	0	0	0	0	0	0	0	480
24	9726	STU	Student	477	61.5	438	35	6	0	1	0	0	0	0	0	0	0	480
			Mean	477.74	63.40	412.61	37.17	17.52	8.48	2.65	1.09	0.39	0	0.04	0.04	0	0	480
			Std.Dev.	4.65	2.98	53.69	24.78	16.27	10.49	5.23	2.54	1.16	0	0.21	0.21	0	.0	480

* Not estimated

for offices. In this case it is best to use Bilsom "Propp-o-Plast" hearing protectors which are hygienic, comfortable and do not interfere with verbal communication (Fig. 1).

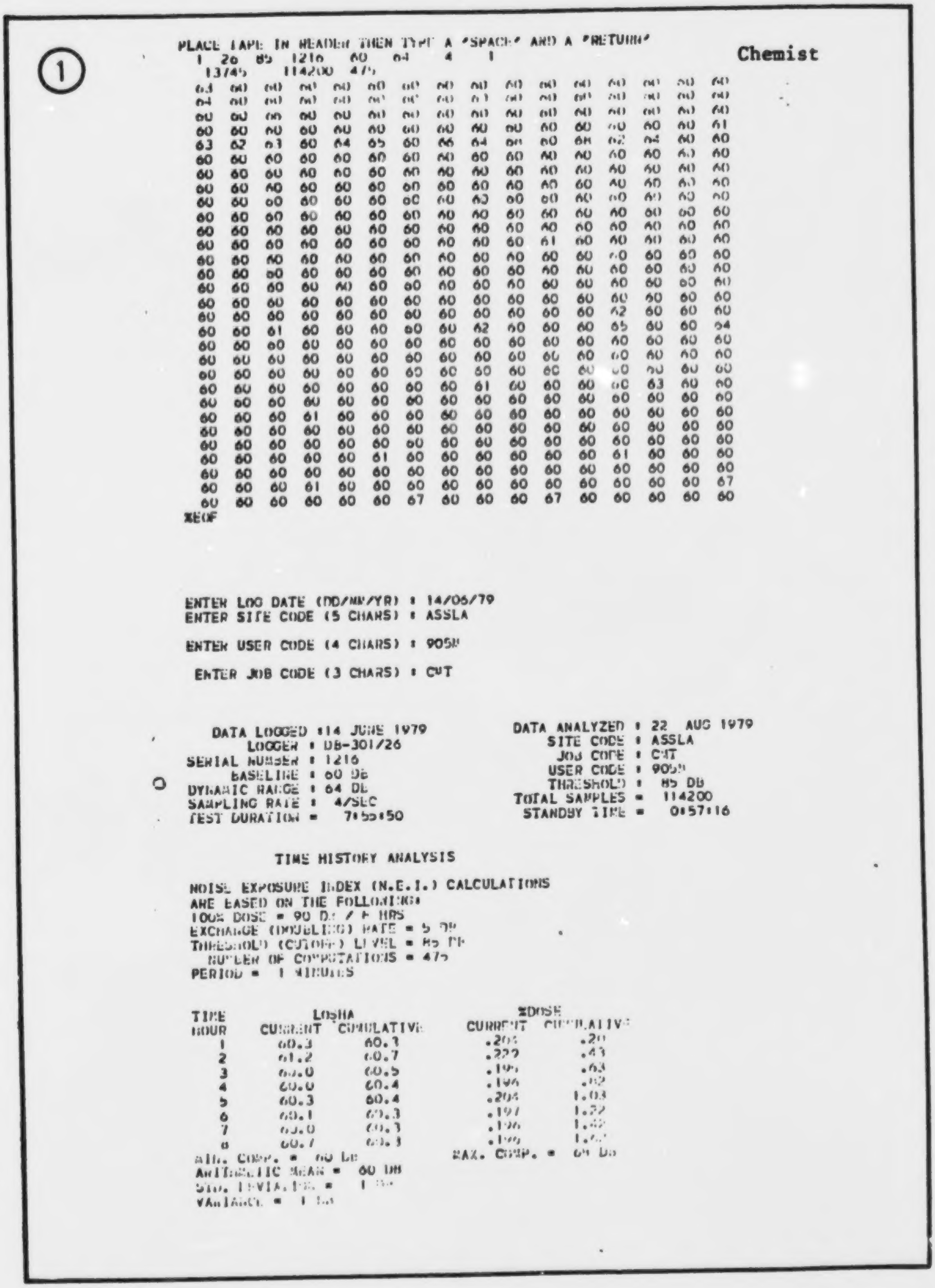
Relocation of the assay laboratory is a permanent and best solution.

Forvaras torrt. Kastas efter användandet
Keep dry. Throw away after use
Trocken aufbewahren. Nach Gebrauch wegwerfen.
Tenir au sec. Jeter après usage
Droog bewaren. Voor eenmalig gebruik
Huom käytettävä kuivana
Conservar en lugar seco. Tir despues de usarlos.
Tenere in luogo asciutto Gettare dopo l'uso.
Art. No. 5022
Made in Sweden
Bilsom
Bilsom AB
S-260 50 Billesholm, Sweden

Fig. 1: Bilsom "Propp-o-Plast" hearing protectors wrapped in plastic foil.

APPENDIX 1

MEASUREMENT OF NOISE EXPOSURE INDEX IN ASSAY LABORATORY WITH FULL INFORMATION: L$_{OSHA}$ (CURRENT AND CUMULATIVE); PERCENT DOSE (CURRENT AND CUMULATIVE); ARITHMETIC MEAN; STANDARD DEVIATION; AMPLITUDE DISTRIBUTION (GRAPHICAL AND NUMERICAL; AND TIME HISTORY (GRAPHICAL).



①

Chemist

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  85  1216   60   64    4    1
  13745     114200  475
   63  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   64  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61
   63  62  63  60  64  65  60  66  64  60  60  68  62  64  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
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   60  60  60  60  60  60  67  60  60  60  67  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 905P

 ENTER JOB CODE (3 CHARS) : CUT

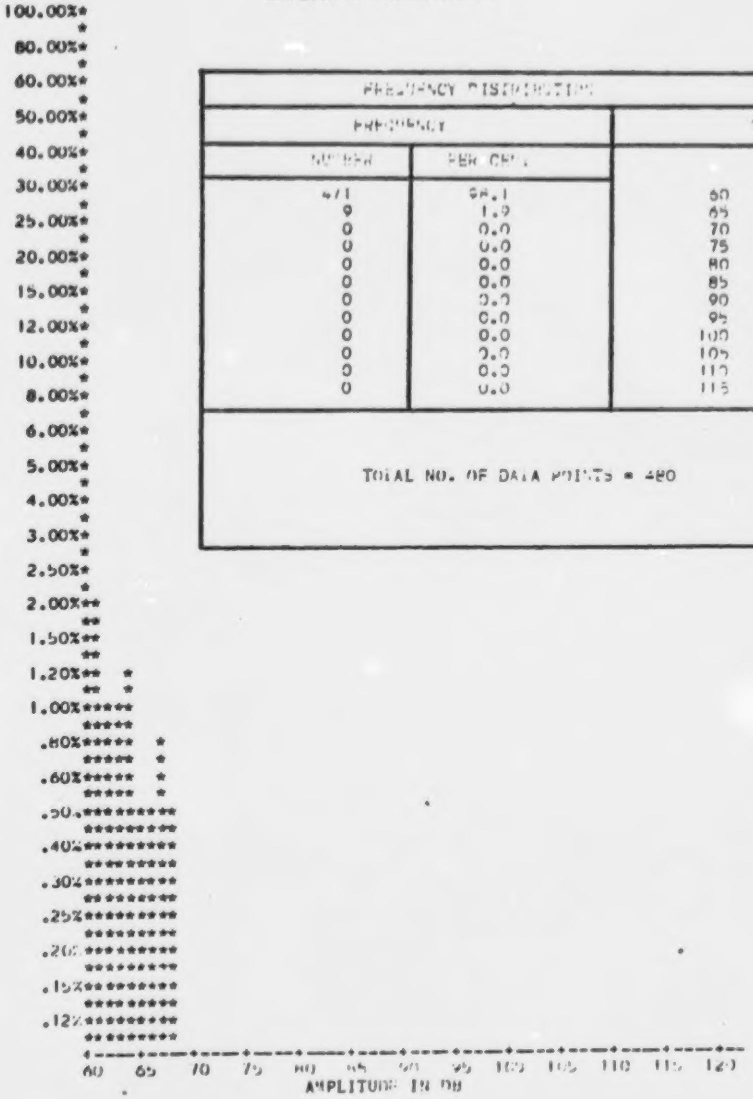

   DATA LOGGED :14 JUNE 1979              DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : ASSLA
 SERIAL NUMBER : 1216                          JOB CODE : CUT
      BASELINE : 60 DB                        USER CODE : 905P
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  114200
 TEST DURATION =    7:55:50                STANDBY TIME =   0:57:16

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 475
 PERIOD =  1 MINUTES


 TIME           LOSHA                          %DOSE
 HOUR    CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
    1      60.3       60.3              .204       .20
    2      61.2       60.7              .222       .43
    3      60.0       60.5              .195       .63
    4      60.0       60.4              .196       .82
    5      60.3       60.4              .204      1.03
    6      60.1       60.3              .197      1.22
    7      60.0       60.3              .196      1.42
    8      60.7       60.3              .196      1.62
  MIN. COMP. =   60 DB               MAX. COMP. =   64 DB
  ARITHMETIC MEAN =  60 DB
  STD. DEVIATION =    1 [illegible]
  VARIANCE =  1 [illegible]
```

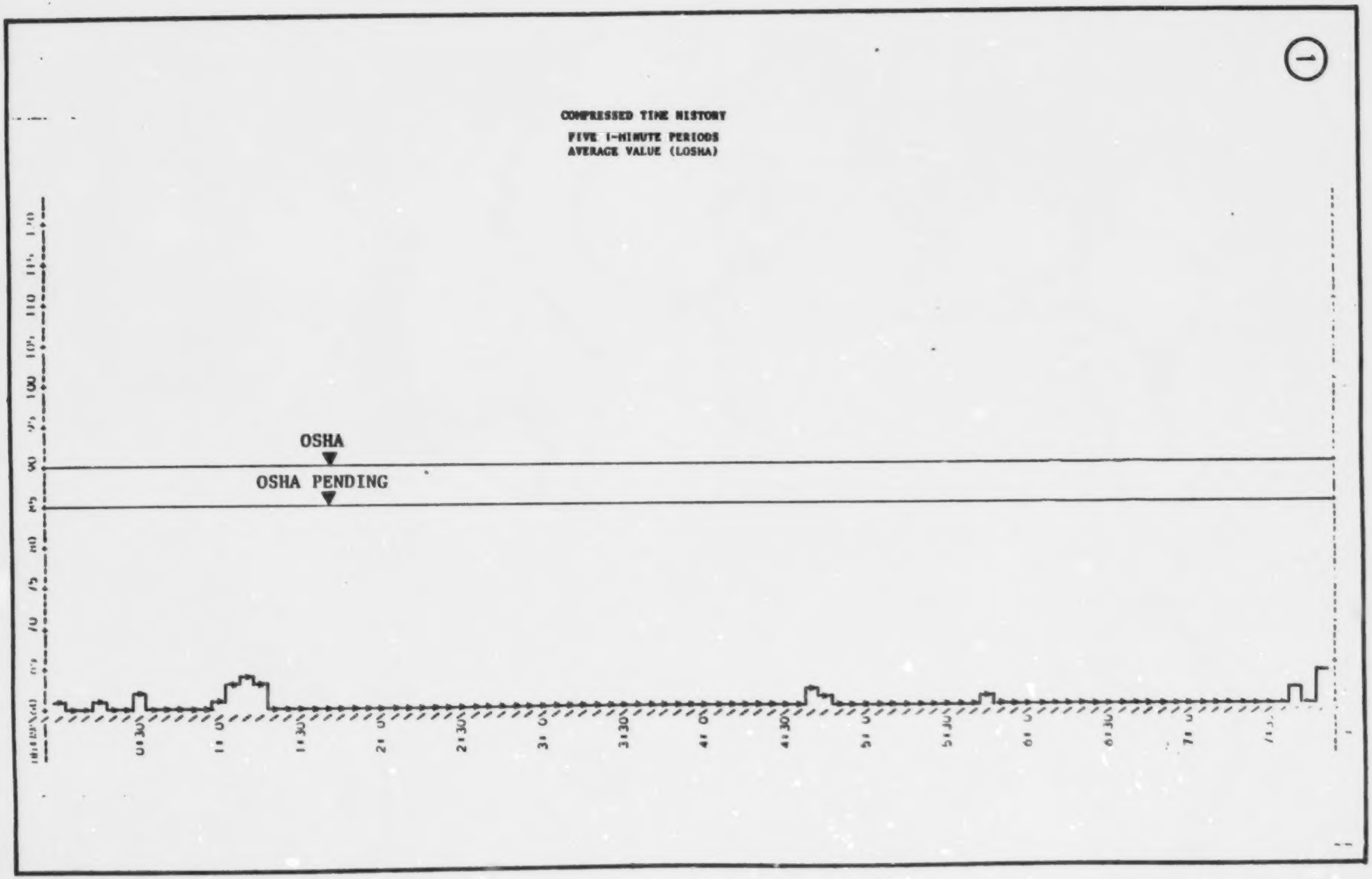
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
471	98.1	60 TO 64
9	1.9	65 TO 69
0	0.0	70 TO 74
0	0.0	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 475



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

Sr. Lab. Tech. ②

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1   26   85   1219    60    64     4     1
   15634       115200   480
  74  67  60  60  60  60  60  60  60  60  61  60  62  60  60  60
  60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
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  60  60  60  60  60  60  60  64  60  61  60  60  65  60  65  61
  66  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  73  73  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 14/05/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9754
 ENTER JOB CODE (3 CHARS) : OLT



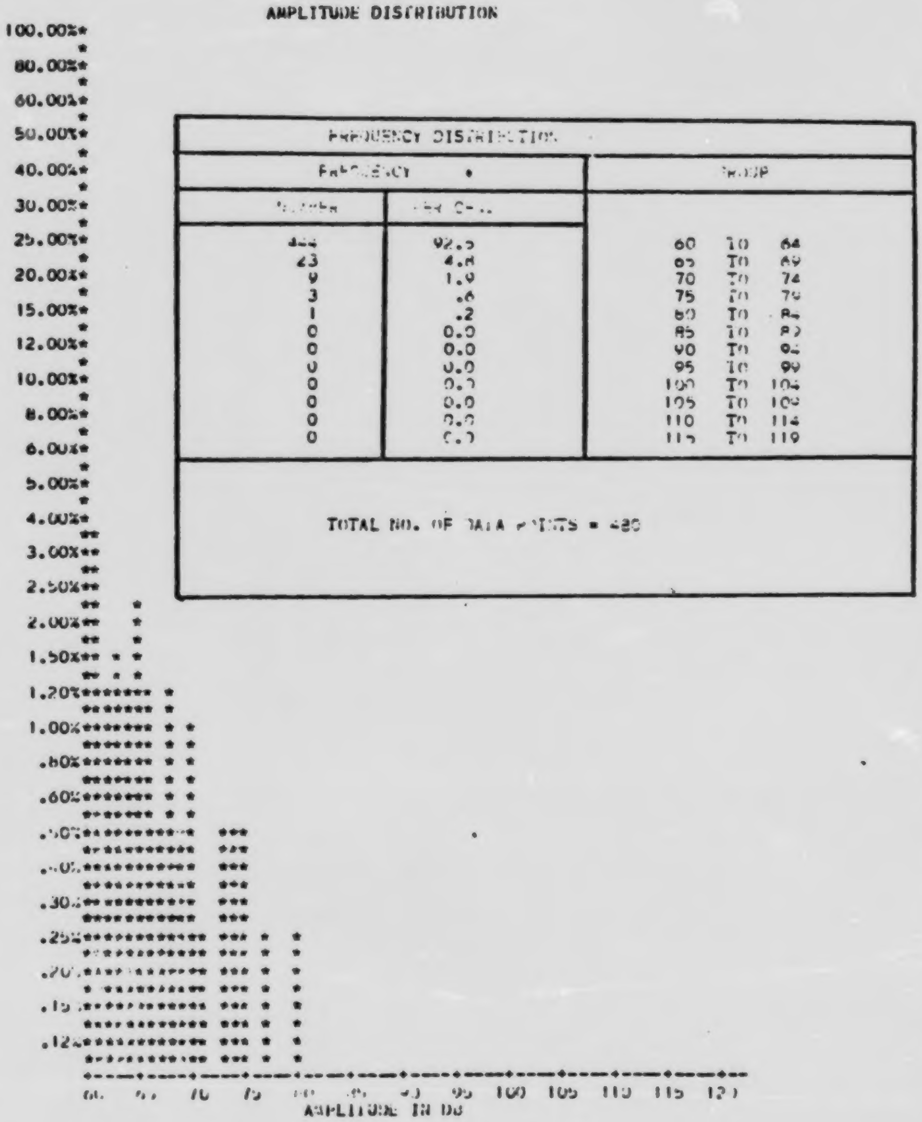
   DATA LOGGED :14 JUNE 1979              DATA ANALYZED : 22  AUG 1979
        LOGGER : DS-301/26                    SITE CODE : ASSLA
 SERIAL NUMBER : 1219                          JOB CODE : OLT
      BASELINE : 60 DB                        USER CODE : 9754
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   1: 4:43

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       61.0       61.0              .223       .22
   2       63.1       62.1              .298       .52
   3       61.9       62.0              .256       .78
   4       60.5       61.7              .210       .99
   5       60.8       61.5              .219      1.21
   6       61.6       61.6              .251      1.46
   7       61.9       61.6              .256      1.71
   8       61.6       61.6              .242      1.95
MIN. COMP. = 60 DB                   MAX. COMP. = [illegible] DB
ARITHMETIC MEAN = [illegible] DB
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

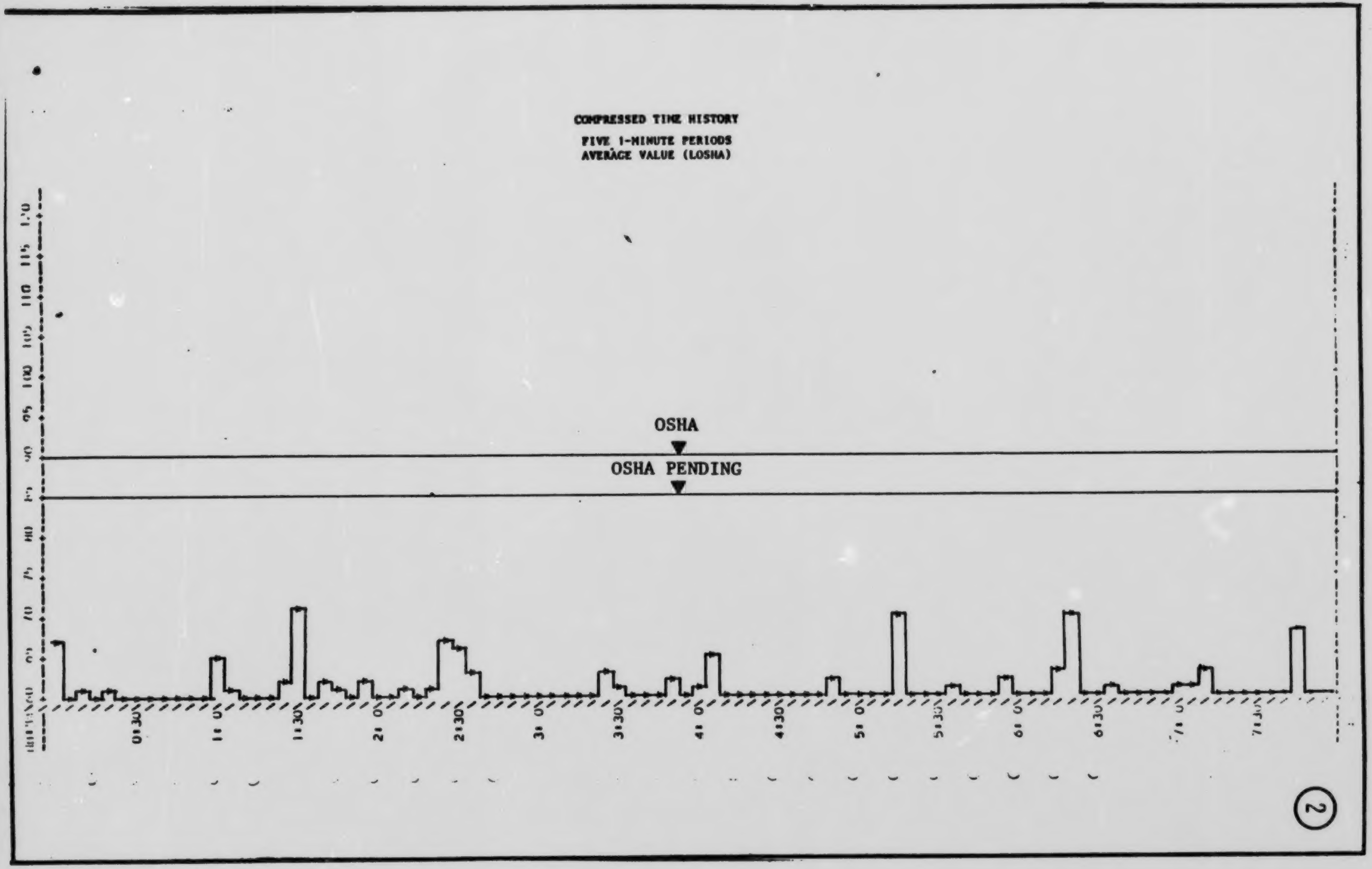
②



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
444	92.5	60 TO 64
23	4.8	65 TO 69
9	1.9	70 TO 74
3	.6	75 TO 79
1	.2	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0
7:30
②

③ Sr. Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  26  85  1215   60   64    4    1
   8161      115200  480
 76  75  63  60  64  69  60  68  63  60  60  64  60  60  60  60
 76  74  70  72  60  60  62  60  65  60  64  60  63  69  63  60
 60  60  62  60  61  60  60  71  60  60  63  65  63  60  68  64
 62  62  65  60  60  60  60  60  60  60  64  65  60  60  60  60
 60  60  60  60  60  60  60  60  61  62  60  64  60  62  61  60
 72  60  72  60  60  60  75  71  65  60  60  60  60  60  60  60
 60  74  60  60  60  60  60  60  60  64  72  60  60  60  69  60
 63  60  60  60  60  60  60  60  60  63  63  64  60  61  71  64
 64  60  61  72  60  60  61  60  61  61  64  60  64  60  60  64
 60  60  61  61  60  64  64  69  60  70  60  65  67  66  74  71
 66  76  60  60  60  71  70  63  64  72  75  82  68  62  60  60
 60  60  60  70  64  60  60  60  60  60  60  61  60  69  60  60
 60  60  67  60  71  60  70  71  74  62  60  68  74  70  61  64
 80  60  60  60  79  60  67  80  69  60  60  60  60  60  60  63
 60  60  60  67  60  60  74  65  60  60  60  65  60  60  64  60
 60  65  60  70  72  61  64  64  66  60  72  70  68  60  64  67
 67  60  63  62  65  60  60  60  60  60  60  60  60  60  61  60
 60  60  60  60  63  60  60  60  60  60  60  60  60  60  60  64
 60  60  60  60  60  62  60  60  60  63  60  62  65  71  81  68
 65  65  60  60  71  76  70  65  81  73  82  64  79  79  77  79
 77  60  64  61  74  62  78  64  69  60  64  60  60  64  60  60
 60  60  60  60  60  60  60  60  60  61  60  60  60  60  71  66
 71  60  60  60  60  82  60  60  62  60  70  60  72  60  72  61
 65  61  60  68  66  60  61  60  60  64  60  64  61  67  60  63
 67  62  61  61  63  60  60  60  60  60  60  62  78  60  60  60
 60  60  60  60  60  60  60  67  64  60  60  68  70  74  60  69
 70  61  60  64  60  60  60  60  60  72  73  60  65  69  60  60
 67  66  66  61  60  60  60  69  62  60  68  66  63  70  63  67
 60  60  67  64  65  60  60  66  63  60  60  60  60  65  61  61
 60  60  60  60  60  69  70  70  64  60  60  60  60  60  60  60
%EOF

ENTER LOG DATE (MO/DY/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9663
 ENTER JOB CODE (3 CHARS) : SLT



   DATA LOGGED :14 JUNE 1979                 DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : ASSLA
 SERIAL NUMBER : 1215                             JOB CODE : SLT
      BASELINE : 60 DB                           USER CODE : 96 3
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                    STANDBY TIME =   0:34: 0

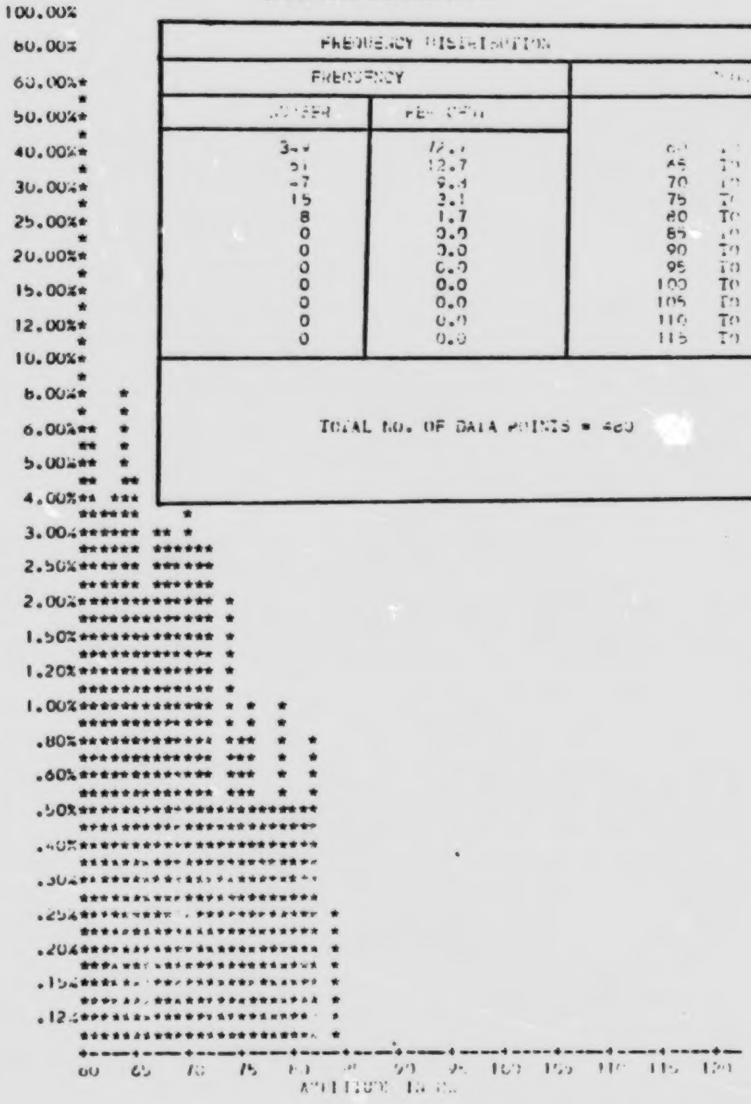
           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1      65.1      65.1             .391       .39
   2      63.4      64.3             .312       .71
   3      66.6      65.1             .485      1.19
   4      66.7      65.5             .492      1.68
   5      62.8      65.1             .285      1.97
   6      71.2      66.5             .918      2.89
   7      74.1      68.3             .372      3.26
   8      64.2      67.9             .35       3.61
MIN. CONC. =  60 DB                 MAX. CONC. =  84 DB
ARITH MEAN LA =  63 DB
STD. DEVIATION =   5 DB
VARIANCE = 25 DB
```

③

AMPLITUDE DISTRIBUTION



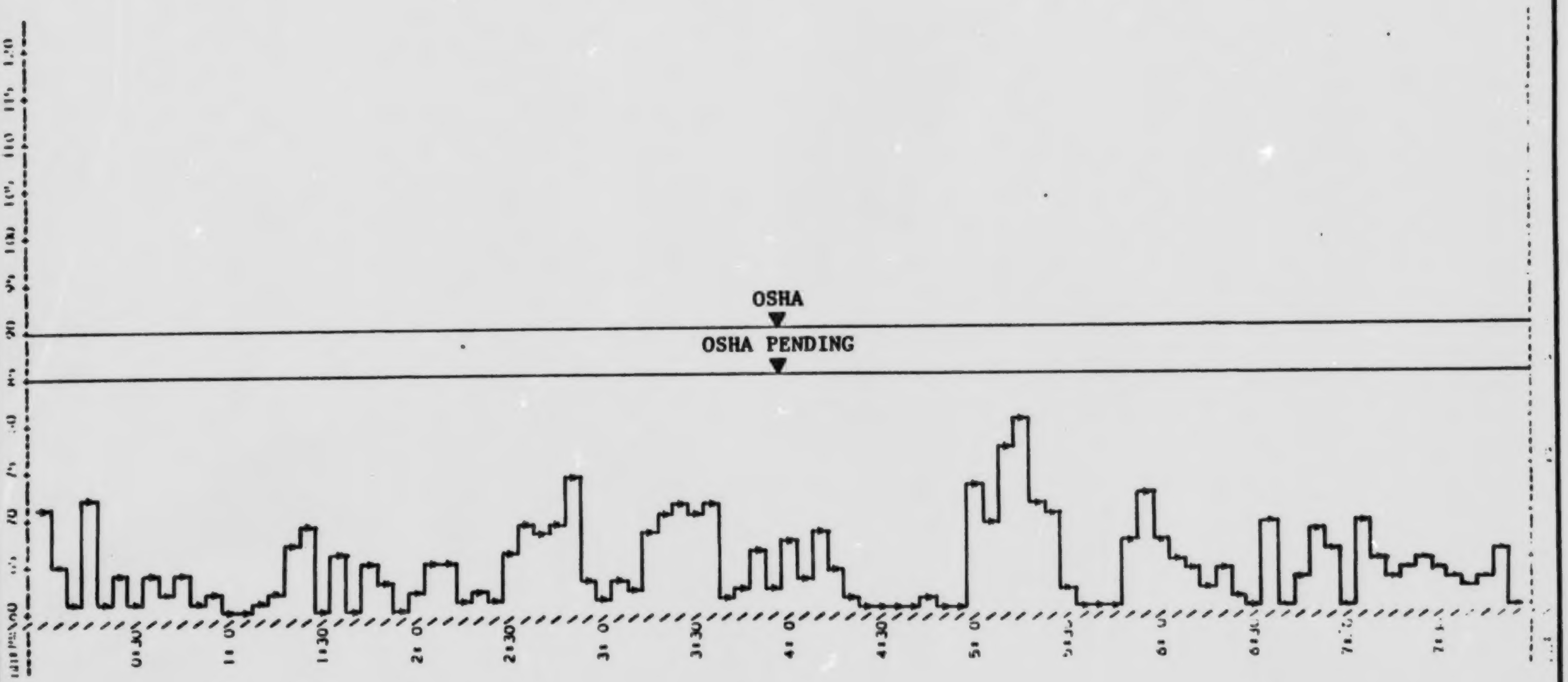
FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PER CENT	
349	72.7	60 TO 64
61	12.7	65 TO 69
47	9.8	70 TO 74
15	3.1	75 TO 79
8	1.7	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

③

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Sr. Lab. Tech. ④

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  60  1215  60  64   4   1
   6.937    115200  4.0
 77  76  60  65  64  64  63  74  60  64  70  62  72  74  75  67
 68  61  67  72  72  73  60  63  60  63  70  62  61  60  72  62
 71  59  60  61  60  60  64  60  64  69  60  65  61  60  64  63
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  61  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  63  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  62  62  61
 60  60  60  60  60  61  61  60  60  60  60  60  60  60  61  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  61  60  60  60  60  60  60  61
 60  60  60  60  60  62  62  60  63  63  68  65  61  60  62  63
 60  65  65  62  67  62  63  63  65  65  60  63  65  60  61  60
 61  61  60  61  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  63  60  61  60  60  60  60  60  60  61  60  60  60
 61  60  65  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  61  60  62  60  60  61  64  63  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF




ENTER LOG DATE (DY/MO/YR) : 03/07/79

ENTER SITE CODE (5 CHARS) : XRASL
ENTER USER CODE (4 CHARS) : 9RE3
 ENTER JOB CODE (3 CHARS) : JLT



    DATA LOGGED : 3 JULY 1979               DATA ANALYZED : 28 AUG 1979
         LOGGER : DL-301/26                     SITE CODE : XRASL
  SERIAL NUMBER : 1215                           JOB CODE : JLT
       BASELINE : 60 DB                         USER CODE : 9RE3
  DYNAMIC RANGE : 64 DB                         THRESHOLD : [illegible]
  SAMPLING RATE : 4/SEC                     TOTAL SAMPLES =  115200
. TEST DURATION =   8: 0: 0                  STANDBY TIME =   [illegible]

           TIME HISTORY ANALYSIS

NOISE EXPOSURE LEVEL (N.E.L.) CALCULATION
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

TIME            [illegible]                         [illegible]
HOUR      CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       [illegible]    [illegible]            [illegible]     [illegible]
   2       60.0     64.1             .1[illegible]     [illegible]
   3       [illegible]    63.0             .1[illegible]     [illegible]
   4       60.2     62.4             .2[illegible]     1.0[illegible]
   5       [illegible]    [illegible]            .1[illegible]     1.[illegible]
   6       [illegible]    [illegible]            .2[illegible]     1.[illegible]
   7       [illegible]    [illegible]            .2[illegible]     1.[illegible]
   8       [illegible]    61.6             .2[illegible]     1.[illegible]
[illegible]                           [illegible]
[illegible]
[illegible]
[illegible]
```

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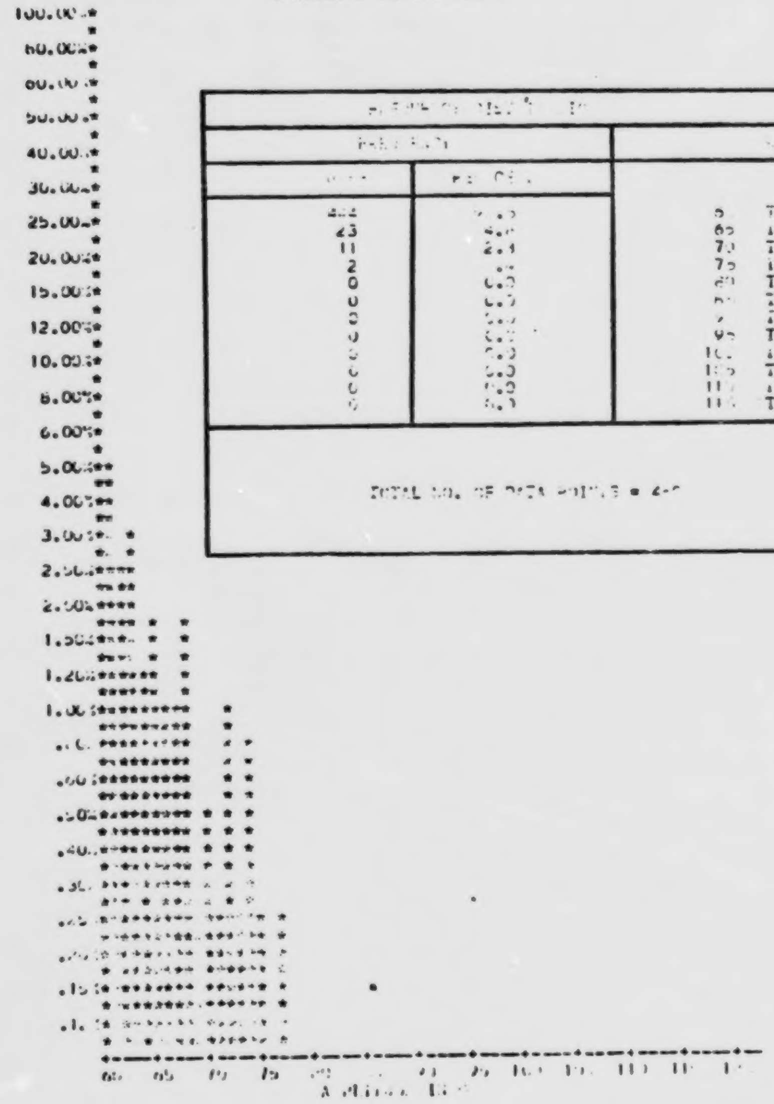
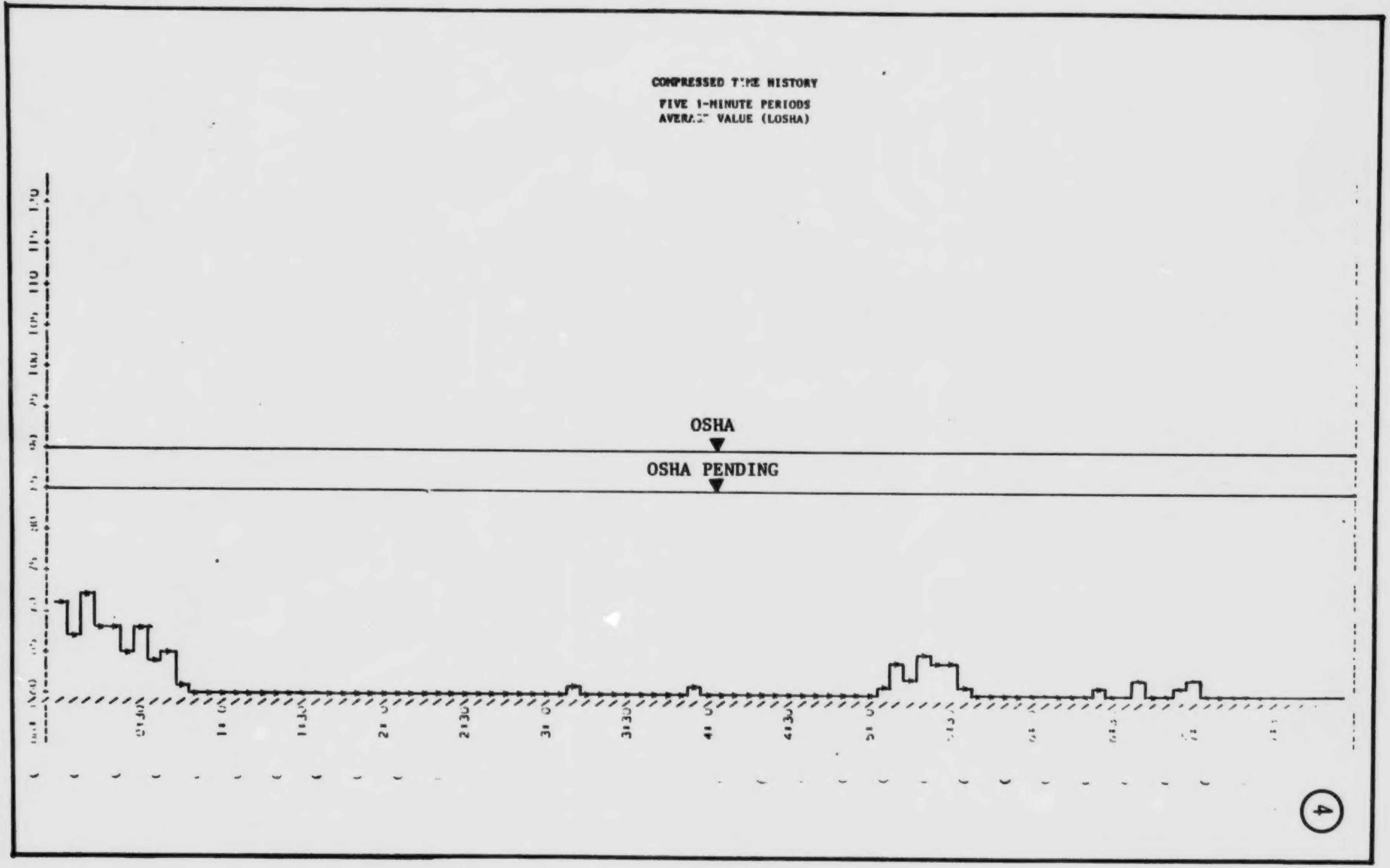
AMPLITUDE DISTRIBUTION



[illegible]		
FREQUENCY		RANGE
NO.	PER CENT	
[illegible]	[illegible]	60 TO 64
23	[illegible]	65 TO 69
11	[illegible]	70 TO 74
2	[illegible]	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
4

⑤

Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
 1  26  85  1214   60   64    4    1
   3491    115200  480
  73  63  66  60  60  60  60  63  66  66  60  63  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  66  60  69  60  60  65  60  60  62
  60  60  60  60  60  60  60  60  60  60  60  60  63  60  60  60
  60  60  60  72  63  60  60  65  60  60  62  60  60  60  60  60
  60  60  63  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  64  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61
  63  60  60  60  60  60  60  60  61  60  60  60  60  60  60  63
  60  61  60  60  60  60  60  60  63  60  60  60  61  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  64  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  61  60  64  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  61  60  60  60  60  60  60  60  60  68  60  60  60  73  60  62
  61  64  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  69  63  60  60  60  63  64  60  60  60  63  60  66  60  73  61
  64  71  67  63  60  60  64  60  60  60  65  60  60  60  60  61
  60  60  60  60  60  60  60  60  66  60  60  61  60  60  62  60
  60  60  60  60  60  60  60  62  62  60  68  62  63  61  62  61
  60  60  60  60  60  60  60  60  60  60  60  60  64  60  63  60
  60  60  60  60  60  60  62  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  67  60  62  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  62  70  60  60  60
  65  60  62  60  60  60  60  61  61  60  60  60  60  60  60  60
  60  73  60  60  60  60  60  60  63  60  60  71  60  60  71  73
  66  68  65  70  85  80  70  75  66  74  64  66  64  60  60  67
  63  64  60  60  60  72  60  61  60  60  60  60  60  60  60  60
XEOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : LABTE
ENTER USER CODE (4 CHARS) : 9834
 ENTER JOB CODE (3 CHARS) : OLT


   DATA LOGGED :14 JUNE 1979          DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                SITE CODE : LABTE
 SERIAL NUMBER : 1214                      JOB CODE : OLT
      BASELINE : 60 DB                    USER CODE : 9834
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0             STANDBY TIME =   0:14:32

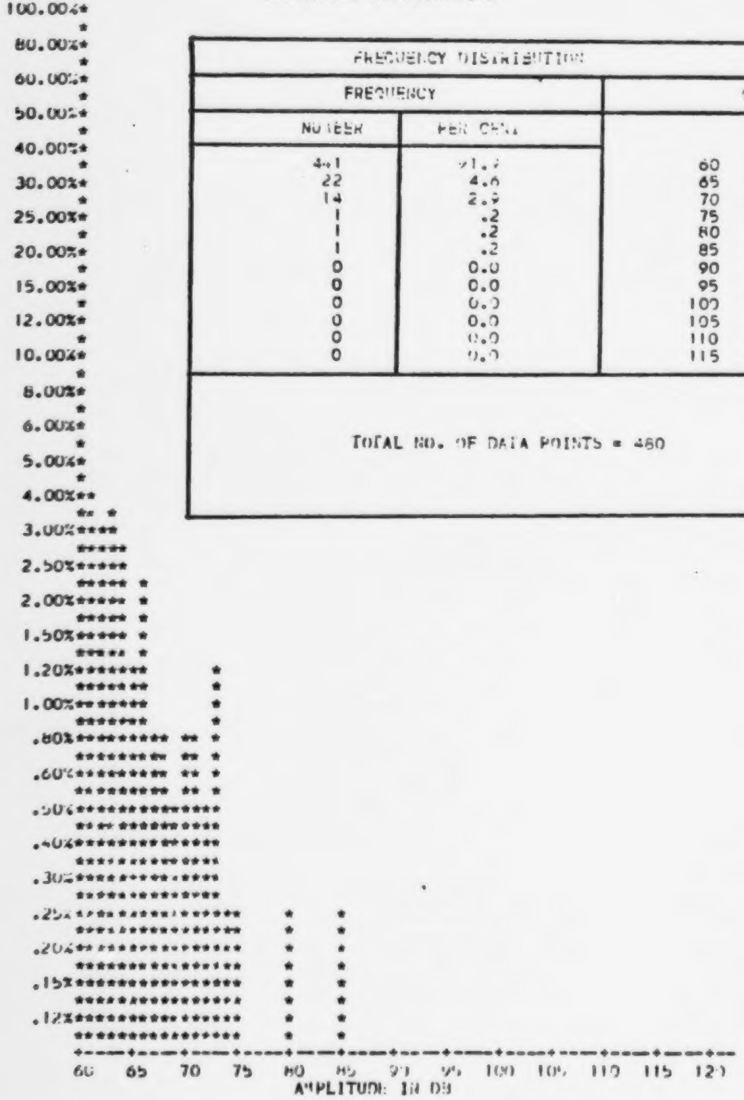
           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME             LOSHA                     %DOSE
 HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
    1       61.4      61.4            .237       .24
    2       61.0      61.2            .225       .46
    3       60.3      60.9            .202       .66
    4       60.2      60.7            .201       .87
    5       61.4      60.9            .234      1.10
    6       62.1      61.1            .263      1.37
    7       60.9      61.1            .222      1.59
    8       67.0      62.2            .517      2.11
 MIN. CURR. =  60 DB              MAX. CURR. =  85 DB
 ARITHMETIC MEAN =  61 DB
 STD. DEVIATION =   3 DB
 VARIANCE =  9 DB
```

⑤

AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
441	91.9	60 TO 64
22	4.6	65 TO 69
14	2.9	70 TO 74
1	.2	75 TO 79
1	.2	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

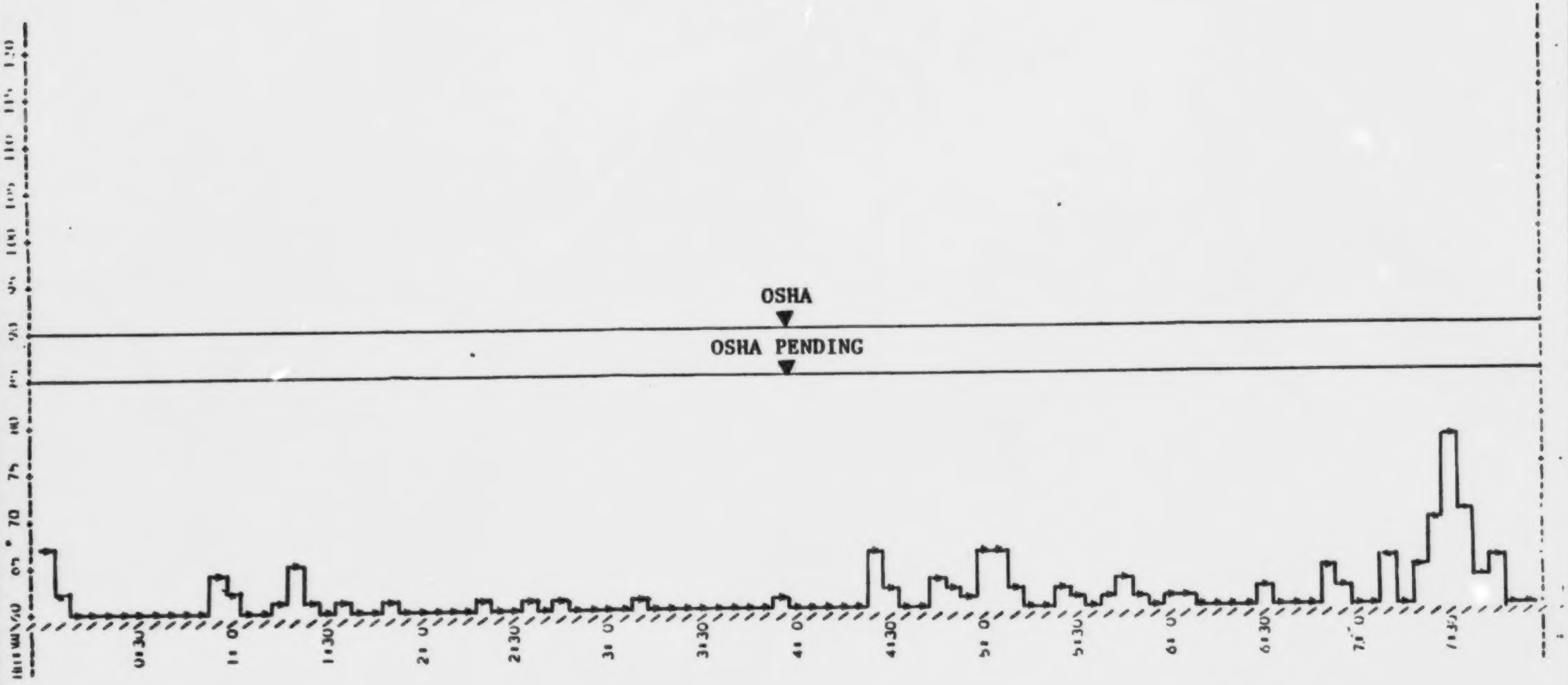
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑤

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Lab. Tech. ⑥

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  85  1226   60   64    4    1
   5168     115200  480
  62  60  69  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  63  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  79  63  65  60  65
  62  67  62  60  60  67  63  60  60  60  60  60  60  60  60  60
  65  74  62  63  67  63  67  74  66  72  68  72  75  72  74  75
  74  60  64  63  60  68  60  60  60  60  60  63  66  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60 .60  60  60  60  60  60  60
  60  60  60  60  60  63  62  60  62  60  62  60  63  61  66  61
  62  67  60  61  60  65 '60  62  61  75  62  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  62  64  60  64  61  60  60  67  75  67
  75  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  68  72  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60 '60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  65  72  74  79  72  63  65  63  60  64  65  60  60
  60  60  60  60  60  60  60  60  60  60  60  73  79  69  80  74
  74  78  79  80  78  78  77  75  78  75  73  63  60  60  60  60
  60  60  60  60  64  61  61  63  60  60  60  60  60  62  60  60
  60  75  60  60  63  70  75  60  60  67  60  60  66  61  63  61
  65  69  64  71  70  69  60  60  63  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9843
 ENTER JOB CODE (3 CHARS) : OLT

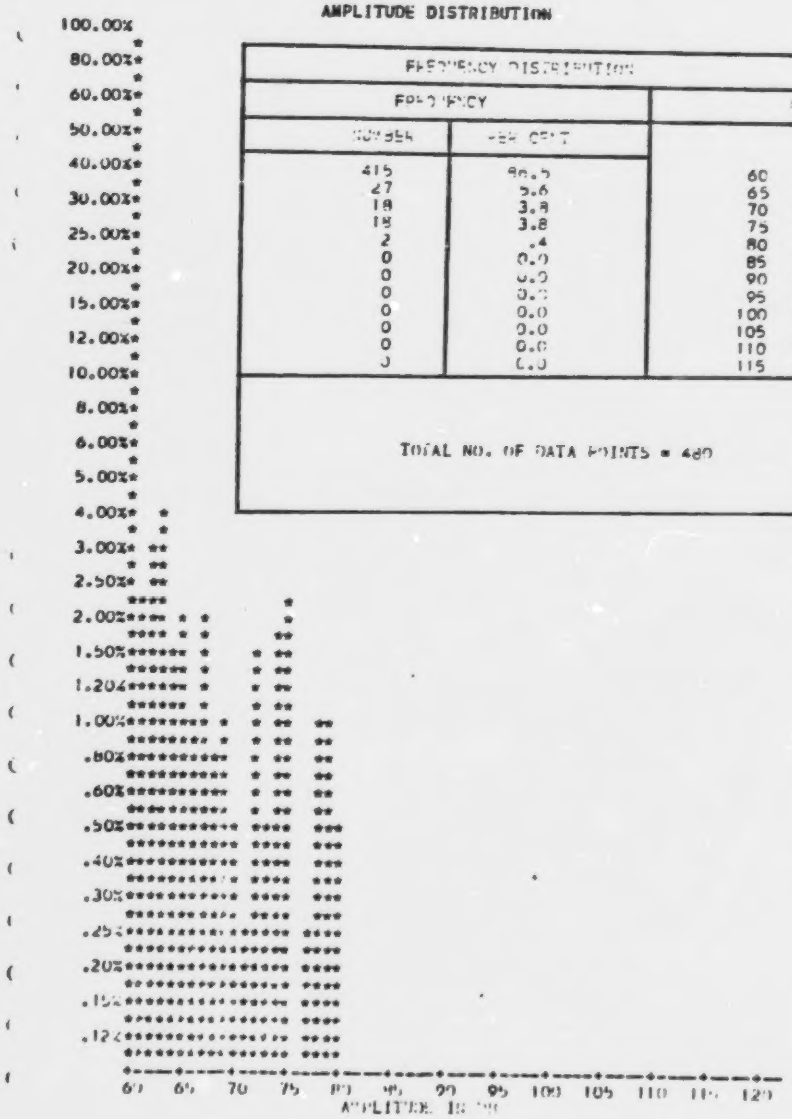

   DATA LOGGED :14 JUNE 1979          DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                SITE CODE : ASSLA
 SERIAL NUMBER : 1226                      JOB CODE : OLT
      BASELINE : 60 DB                    USER CODE : 9843
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0             STANDBY TIME =   0:21:32

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      61.7      61.7             .248       .25
   2      65.7      64.0             .429       .68
   3      61.6      63.2             .242       .92
   4      60.0      62.6             .195      1.11
   5      62.0      62.5             .259      1.37
   6      60.7      62.2             .216      1.59
   7      67.9      63.3             .582      2.17
   8      67.1     '63.9             .519      2.69
MIN. COMP. =  60 DB               MAX. COMP. =  80 DB
ARITHMETIC MEAN =  61 DB
STD. DEVIATION =   4 DB
VARIANCE = 16 DB
```

⑥

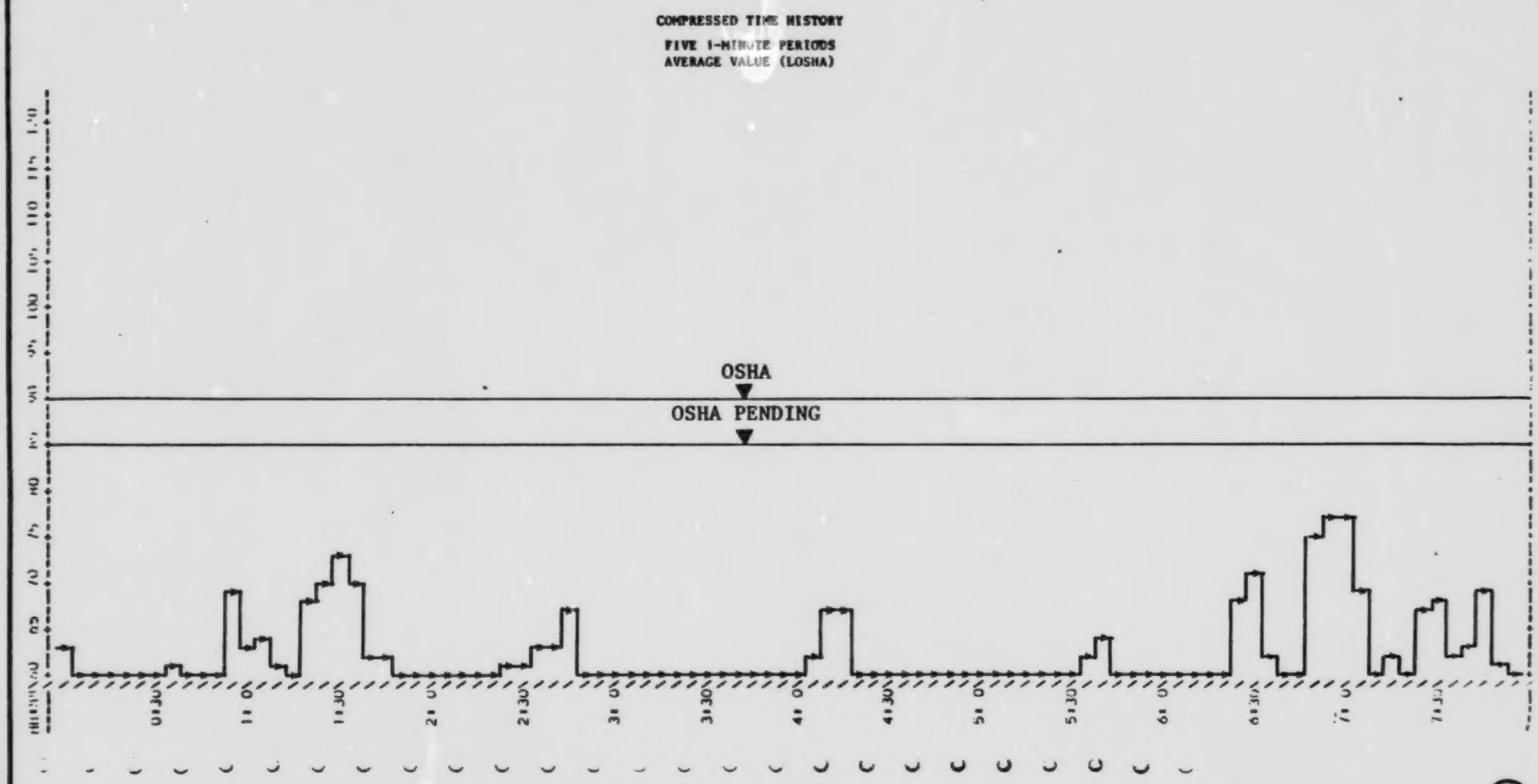


AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
415	86.5	60 TO 64
27	5.6	65 TO 69
18	3.8	70 TO 74
18	3.8	75 TO 79
2	.4	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

⑥

⑦

Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  20  85  1218   60   64    4    1
  16300      115200   480
 69  65  60  60  69  70  60  60  67  62  62  66  72  60  60  60
 60  60  60  64  60  60  60  66  60  67  70  69  62  63  65  66
 60  60  60  60  60  60  60  60  65  61  60  60  60  60  64  69
 68  60  60  60  60  60  61  60  69  60  61  60  78  75  63  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  [illegible]  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  71  62
 61  67  65  73  63  68  61  60  60  60  60  60  60  60  60  60
 60  61  61  62  62  60  60  60  60  60  63  60  60  60  60  63
 60  60  60  60  61  62  60  60  60  60  61  74  68  60  63  60
 60  60  61  60  60  60  60  60  60  60  60  87  79  60  60  75
 60  60  60  60  60  60  60  60  60  60  60  60  60  63  64  70
 68  60  60  60  68  67  60  60  63  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  63  60  60  60  60
 60  60  60  63  60  60  60  60  60  60  60  60  60  63  60  63
 66  60  60  62  75  60  62  69  72  61  60  66  65  67  60  60
 64  62  60  63  66  62  62  70  69  66  68  73  68  69  76  61
 77  64  60  61  60  61  63  60  60  60  64  60  60  61  60  60
 60  61  61  60  60  60  60  60  61  60  60  60  60  60  60  60
 60  60  60  60  60  60  63  60  65  60  60  60  60  63  70  80
 75  76  77  69  60  61  60  60  60  67  60  60  60  60  60  60
 60  60  60  60  60  60  60  61  62  63  65  60  60  64  63  60
 60  60  60  60  60  66  63  68  60  60  60  60  60  60  64  68
 73  71  63  62  63  67  68  72  64  74  68  60  67  70  60  60
 63  60  60  71  60  60  60  76  60  62  75  73  67  71  70  64
 65  60  65  61  68  85  75  80  73  60  60  60  60  64  60  60
 60  60  60  60  66  60  60  60  62  60  60  60  65  60  60  61
 60  60  60  69  61  60  60  60  60  60  60  60  60  60  60  68
 61  60  61  60  61  70  61  60  60  60  60  60  61  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  62  60  63  64
 60  66  61  60  60  60  62  60  66  62  60  66  60  60  61  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9704
 ENTER JOB CODE (3 CHARS) : OLT

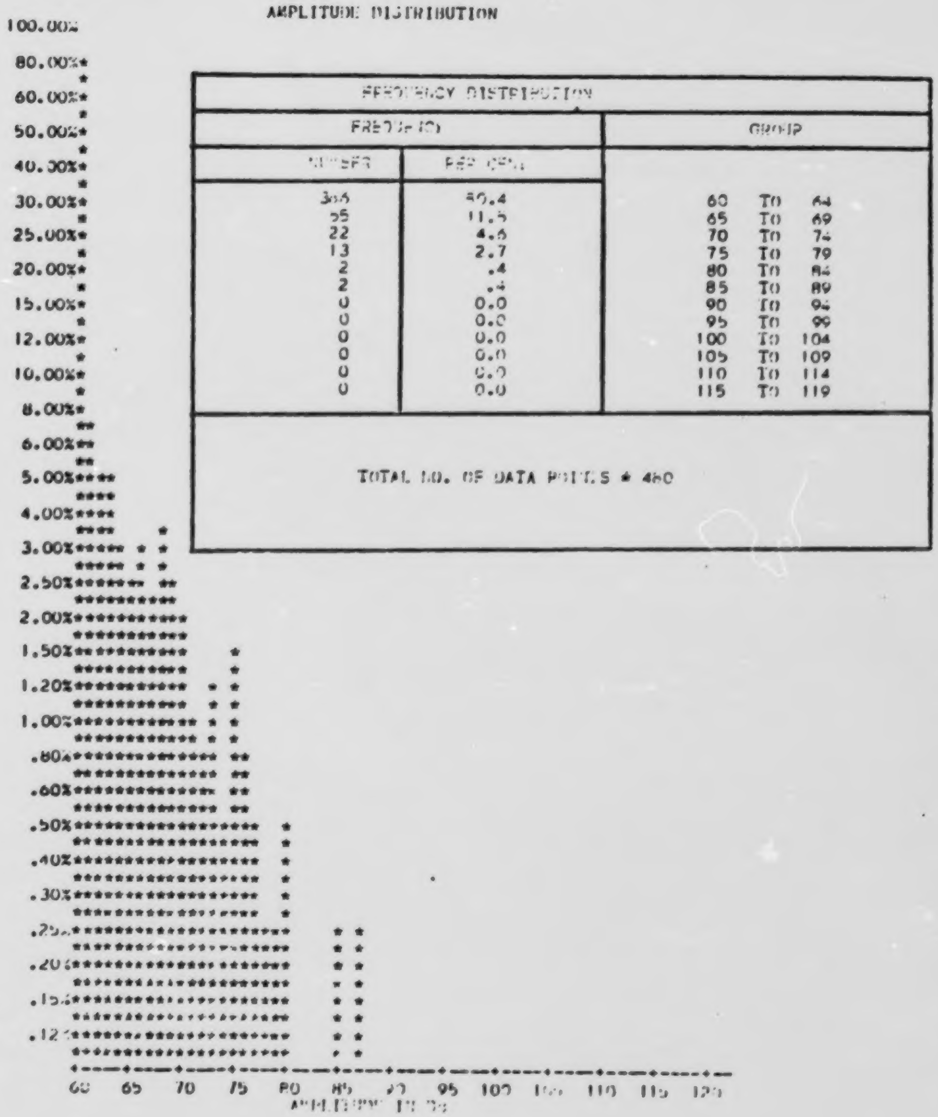

    DATA LOGGED :14 JUNE 1979            DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                  SITE CODE : ASSLA
  SERIAL NUMBER : 1218                        JOB CODE : OLT
       BASELINE : 60 DB                      USER CODE : 9704
  DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0               STANDBY TIME =   1116:31

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUT-OFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                         NIOSH
 HOUR    CURRENT   CUMULATIVE         CURRENT   CUMULATIVE
   1       63.6       63.6              .320        .32
   2       63.2       63.4              .306        .62
   3       66.0       64.4              .444       1.07
   4       62.6       64.0              .28[illegible]       1.35
   5       64.1       64.0              .345       1.70
   6       65.5       64.3              .437       2.14
   7       67.7       64.9              .571       2.71
   8       61.3       64.6              .2[illegible]        [illegible]
  MIN. CONC. =  60 DB                MAX. CONC. =  87 DB
  ARITHMETIC MEAN =  62 DB
  STD. DEVIATION =   4 DB
  VARIANCE = [illegible]
```

⑦



AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
386	80.4	60 TO 64
55	11.5	65 TO 69
22	4.6	70 TO 74
13	2.7	75 TO 79
2	.4	80 TO 84
2	.4	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

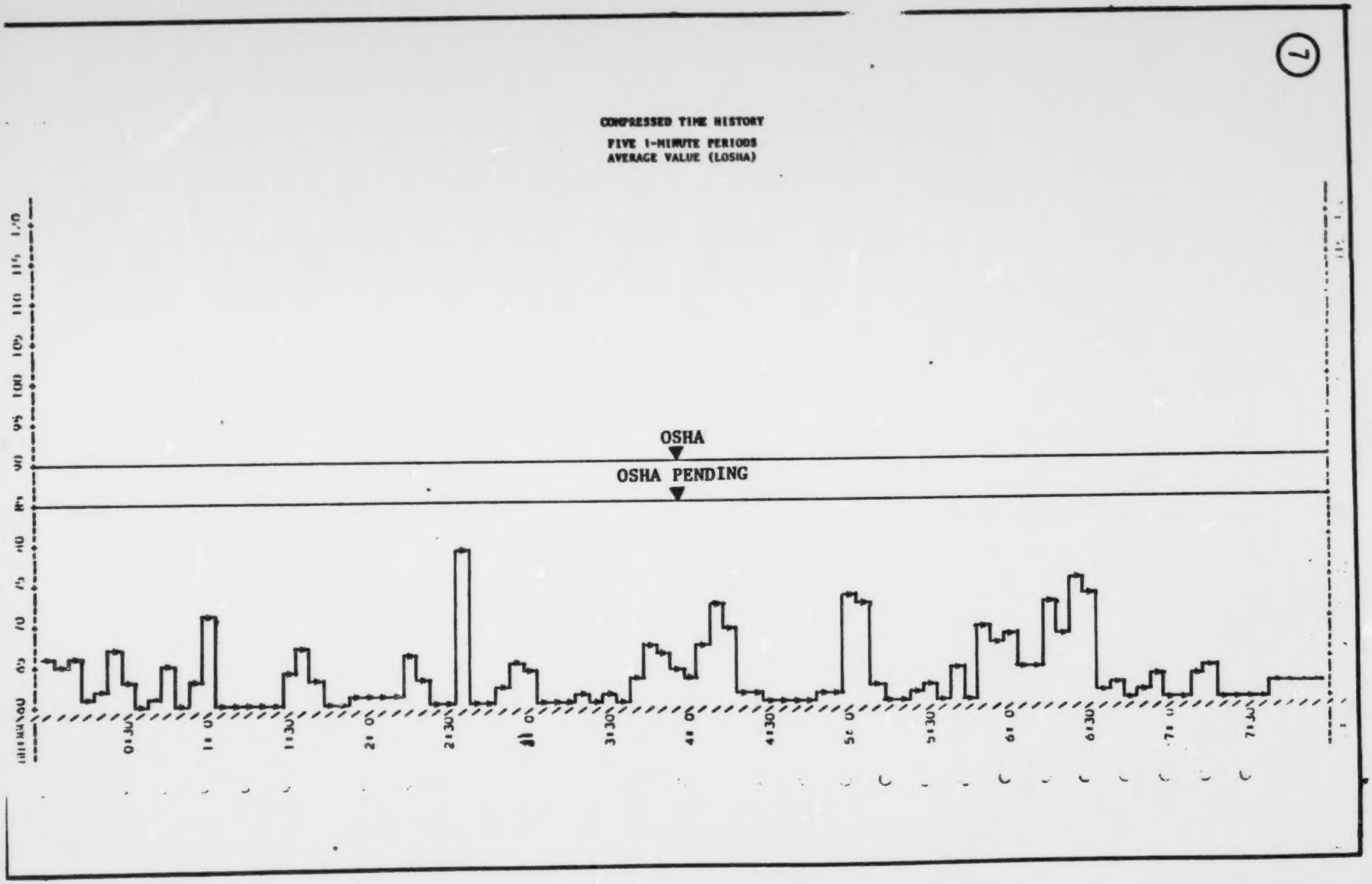
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑦

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Lab. Tech. ⑧

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  I  26  85  1221   60   64    4    1
   13886     115200  480
 60  79  60  60  60  60  60  60  60  60  60  61  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  61  61  62  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  61  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  63  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 9713
 ENTER JOB CODE (3 CHARS) : OLT



    DATA LOGGED :14 JUNE 1979          DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                SITE CODE : ASSLA
  SERIAL NUMBER : 1221                      JOB CODE : OLT
       BASELINE : 60 DB                    USER CODE : 9713
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  85 DB
  SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0             STANDBY TIME =   0:57:51

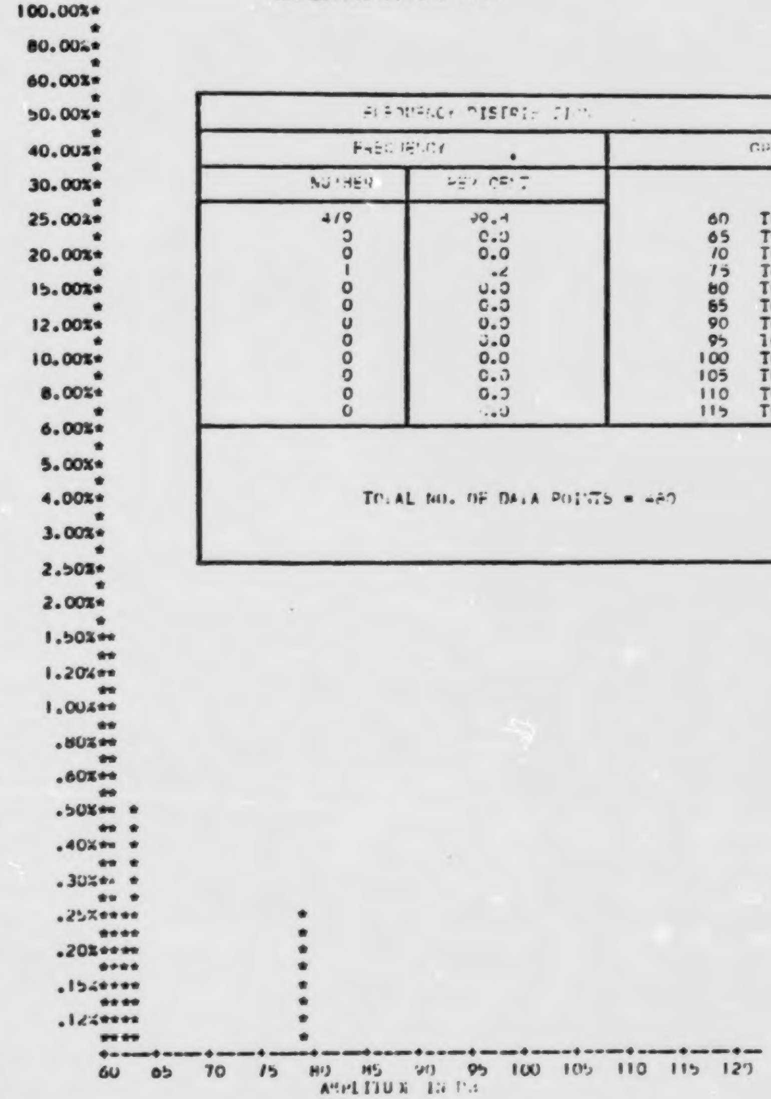
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOG:A                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      61.4       61.4            .238       .24
   2      60.0       60.8            .196       .43
   3      60.0       60.5            .195       .63
   4      60.1       60.4            .197       .83
   5      60.1       60.3            .197      1.02
   6      60.0       60.3            .195      1.22
   7      60.0       60.2            .195      1.41
   8      60.1       60.2            .197      1.61
MIN. COMP. =  60 DB              MAX. COMP. =  79 DB
ARITHMETIC MEAN =  60 DB
STD. DEVIATION =    0 DB
VARIANCE =  0 DB
```

⑧

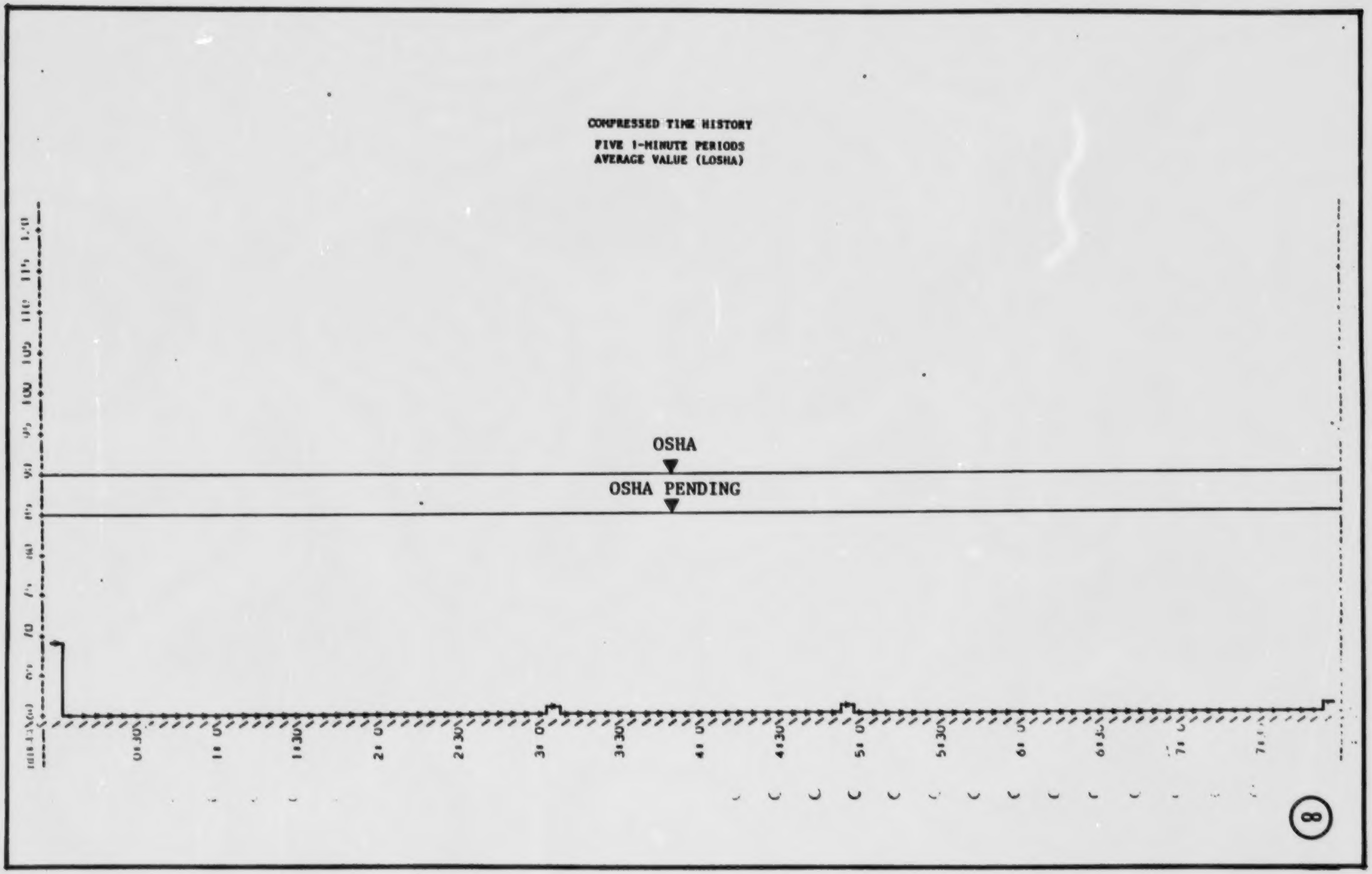
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
479	99.8	60 TO 64
0	0.0	65 TO 69
0	0.0	70 TO 74
1	.2	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑨

Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  26  85  1213   60   64    4    1
  10121     115200   480
 60  67  63  61  60  60  60  60  60  69  69  60  60  69  63  60
 60  60  60  60  60  62  60  60  60  60  60  71  60  60  60  60
 60  64  60  63  60  60  60  60  60  60  60  60  67  60  60  60
 60  60  60  60  60  60  61  65  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  61  60  60  60  60  60  60
 60  60  60  60  61  62  60  60  60  60  60  60  60  61  60  60
 60  60  61  64  60  60  60  60  60  64  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
 61  60  60  60  60  60  60  60  60  61  60  60  60  63  60  67
 62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  64  60
 62  60  60  60  60  60  67  60  61  60  60  60  60  60  60  60
 61  60  60  60  60  60  60  60  60  60  60  61  60  69  69  66
 70  60  60  60  60  60  60  60  61  60  60  61  61  63  64  60
 60  61  62  65  62  64  66  60  67  63  61  60  60  60  60  60
 60  60  60  60  60  60  60  62  60  61  71  60  70  62  60  60
 60  60  60  60  60  60  61  60  60  60  60  65  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  66  60  60  60  60  60  60  60
 60  60  63  60  60  60  60  60  67  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  61  66  61  65  60  63  60  66
 68  63  65  64  60  60  63  60  60  60  60  60  60  60  60  60
 60  60  60  66  65  60  60  61  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  61  62  60  60  60  60  60  60  60  60  60  66  61  60
 60  61  60  63  63  60  63  60  60  63  60  60  62  60  63  60
 60  61  60  60  60  60  60  60  60  62  61  60  60  60  66  68
 62  60  60  60  61  72  69  64  60  60  60  60  60  63  61  61
%EOF



  ENTER LOG DATE (DD/MM/YR) : 14/06/79

  ENTER SITE CODE (5 CHARS) : ASSLA

  ENTER USER CODE (4 CHARS) : 9807

   ENTER JOB CODE (3 CHARS) : OLT

     DATA LOGGED :14 JUNE 1979            DATA ANALYZED : 22  AUG 1979
          LOGGER : DB-301/26                  SITE CODE : ASSLA
   SERIAL NUMBER : 1213                        JOB CODE : OLT
        BASELINE : 60 DB                      USER CODE : 9807
   DYNAMIC RANGE : 64 DB                      THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0               STANDBY TIME =   0:42:10

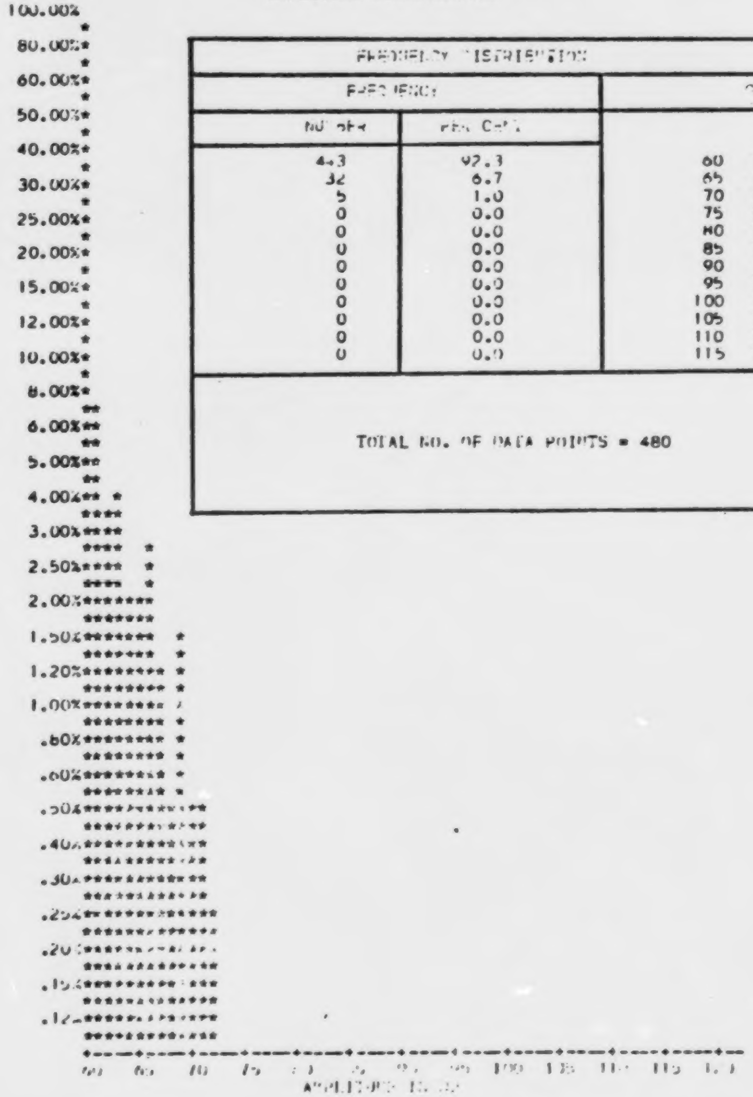
              TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 85 DB
     NUMBER OF COMPOSITES = 480
   PERIOD =  1 MINUTES


   TIME          LOSHA                           %DOSE
   HOUR    CURRENT   CUMULATIVE          CURRENT   CUMULATIVE
     1       62.3        62.3              .270        .27
     2       60.3        61.4              .205        .47
     3       60.4        61.1              .207        .68
     4       61.4        61.2              .23         .92
     5       61.6        61.3              .243       1.16
     6       60.4        61.1              .207       1.37
     7       61.3        61.2              .235       1.60
     8       61.8        61.2              .251       1.85
    MIN. COMP. =   60 DB               MAX. COMP. =   72 DB
    ARITHMETIC MEAN =   60 DB
    STD. DEVIATION =   2.51
    VARIANCE =   4 DB
```

⑨

AMPLITUDE DISTRIBUTION

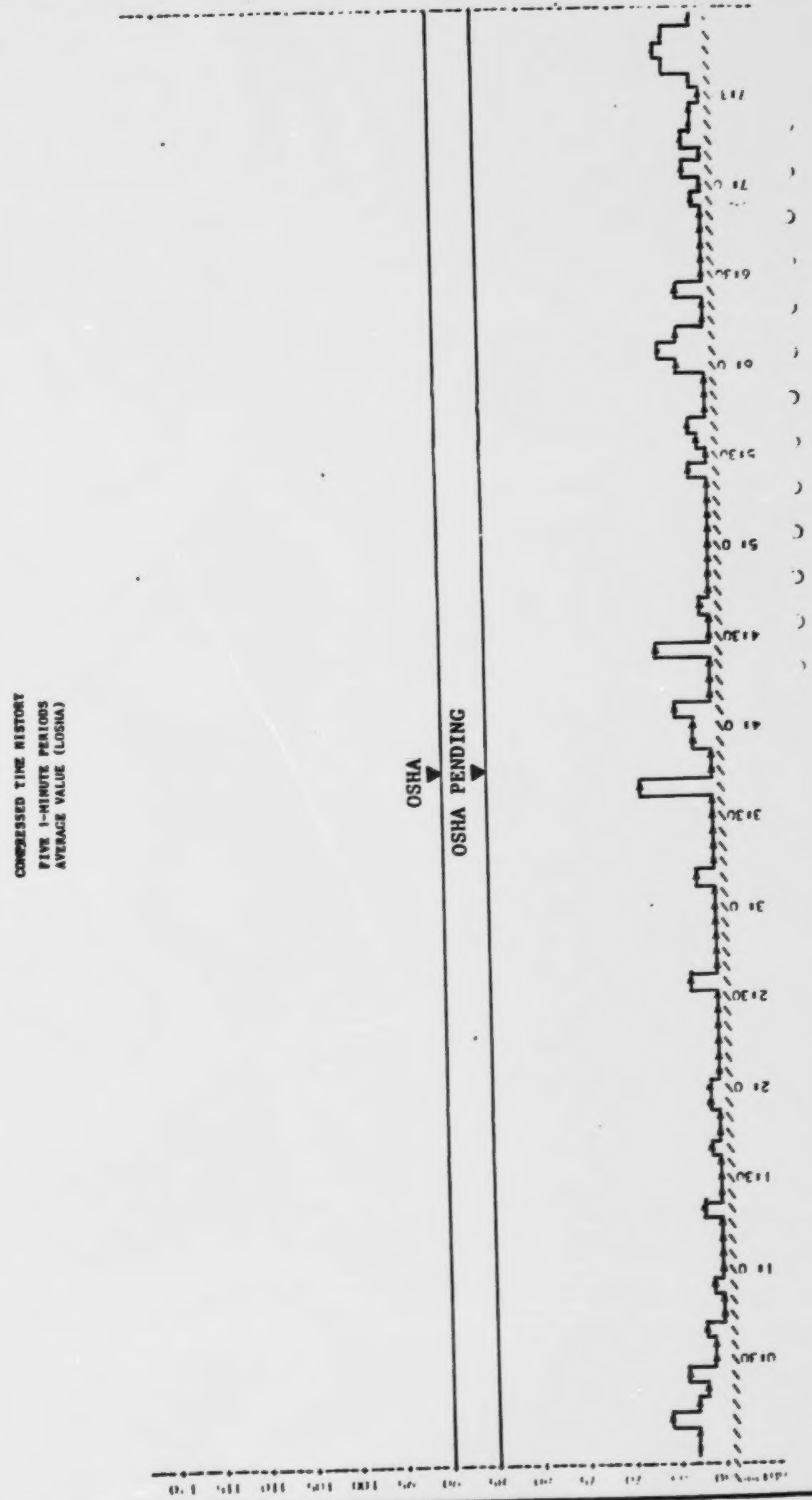


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
443	92.3	60 TO 64
32	6.7	65 TO 69
5	1.0	70 TO 74
0	0.0	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑨


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0

Lab. Tech. ⑩

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
 1  76  [illegible]  1212   60   64    4    1
  7208      115200   480
 74  74  60  61  70  60  66  62  60  60  60  60  63  60  60  60
 60  60  60  60  69  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  71  60
 60  60  69  79  60  60  60  60  60  60  60  60  60  63  60  60
 60  70  69  68  69  64  60  60  64  63  72  76  72  67  75  60
 60  60  60  76  60  60  60  60  60  60  60  60  60  72  62  66
 73  69  67  73  75  71  64  66  66  60  60  65  60  60  61  63
 67  64  63  66  76  60  60  74  67  60  60  60  60  60  60  60
 61  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
 62  65  69  60  60  60  60  60  60  60  66  60  66  60  62  64
 60  60  60  62  72  75  75  74  60  60  60  60  60  77  60  60
 61  60  60  66  60  60  60  60  60  60  63  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 63  68  60  67  60  67  60  60  60  60  60  60  60  63  65  60
 80  72  60  60  60  60  68  77  66  61  60  62  74  62  63  60
 62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  67  64  60  63  60  60  60  60  60  60  62  60  60  60  60
 60  63  75  60  60  60  60  60  62  60  60  60  60  62  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60 .75  63  66  74  60  60  60  60
 60  69  61  61  60  60  60  60  60  60  61  60  60  60  60  60
 70  60  67  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 62  70  60  60  65  60  60  63  60  60  60  60  60  60  60  60
 60  60  60  65  61  60  60  60  61  68  63  64  63  60  60  63
 60  60  60  61  60  60  77  66  76  65  61  62  60  60  60  60
 60  60  60  60  60  62  60  60  60  60  60  61  60  60  60  60
 60  60  60  60  60  69  74  60  74  60  60  65  60  60  64  63
%EOF



ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : LABT
ENTER USER CODE (4 CHARS) : 9733
 ENTER JOB CODE (3 CHARS) : OLT



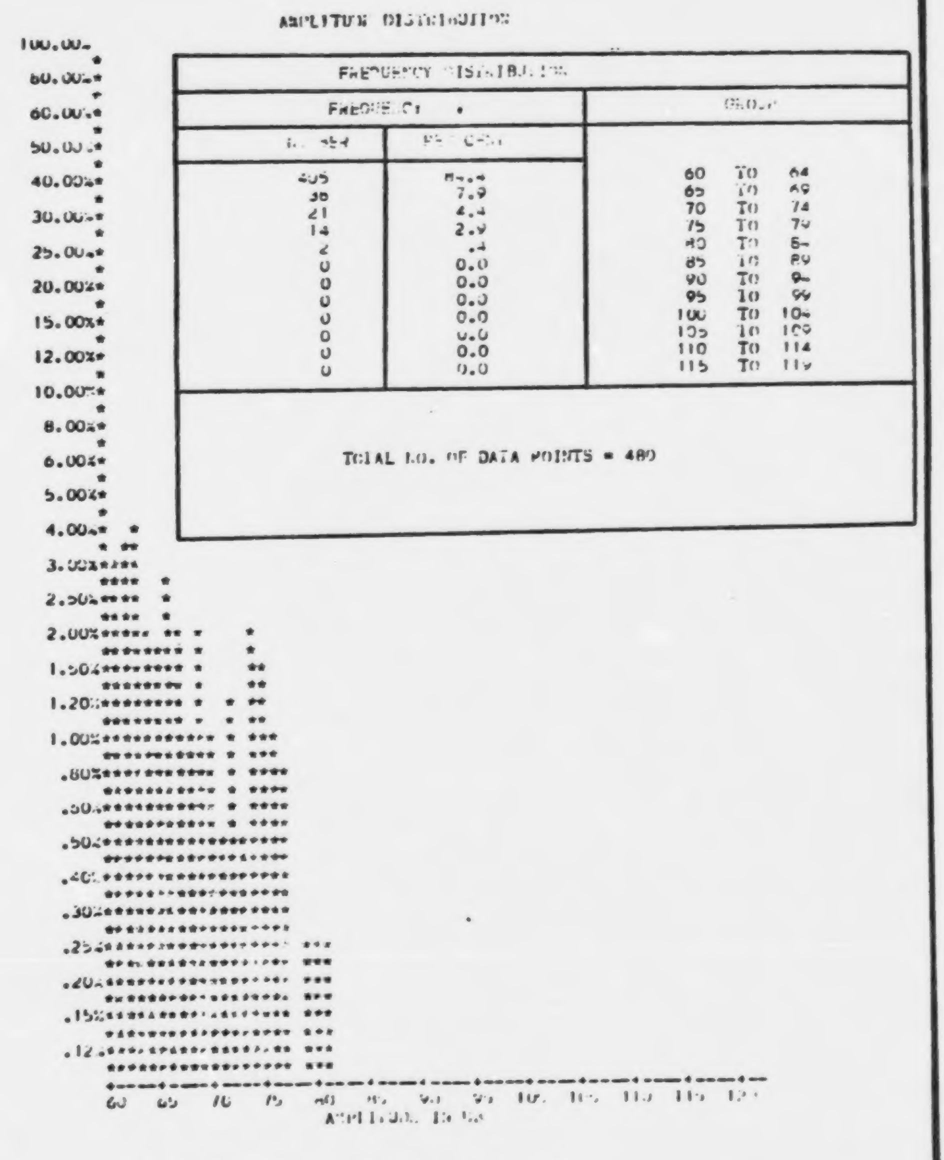
     DATA LOGGED :14 JUNE 1979               DATA ANALYZED : 22  AUG 1979
          LOGGER : [illegible]-301/26            SITE CODE : LABT
   SERIAL NUMBER : 1212                           JOB CODE : OLT
        BASELINE : 60 DB                         USER CODE : 9733
   DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
   SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                  STANDBY TIME =   0:30: 2

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
 NUMBER OF COMPUTATIONS = 4.0
PERIOD =  1 MINUTES

TIME           LOSHA                         DOSE
HOUR      CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1        64.8       64.8              .477       .3[illegible]
   2        67.1       65.0              .520       .9[illegible]
   3        61.1       64.7              .226      1.12
   4        63.9       64.5              .335      1.46
   5        [illegible]       64.5              .351      1.[illegible]
   6        [illegible]       [illegible].2              .2[illegible]       [illegible]
   7        63.7       63.8              .214      [illegible]
   8        63.9       63.8              .233      2.04
MIN. CONC. =  60 [illegible]              MAX. CONC. =   [illegible]
ARITHMETIC MEAN =  61 DB
STD. DEVIATION =   4 [illegible]
VARIANCE = 1[illegible]
```

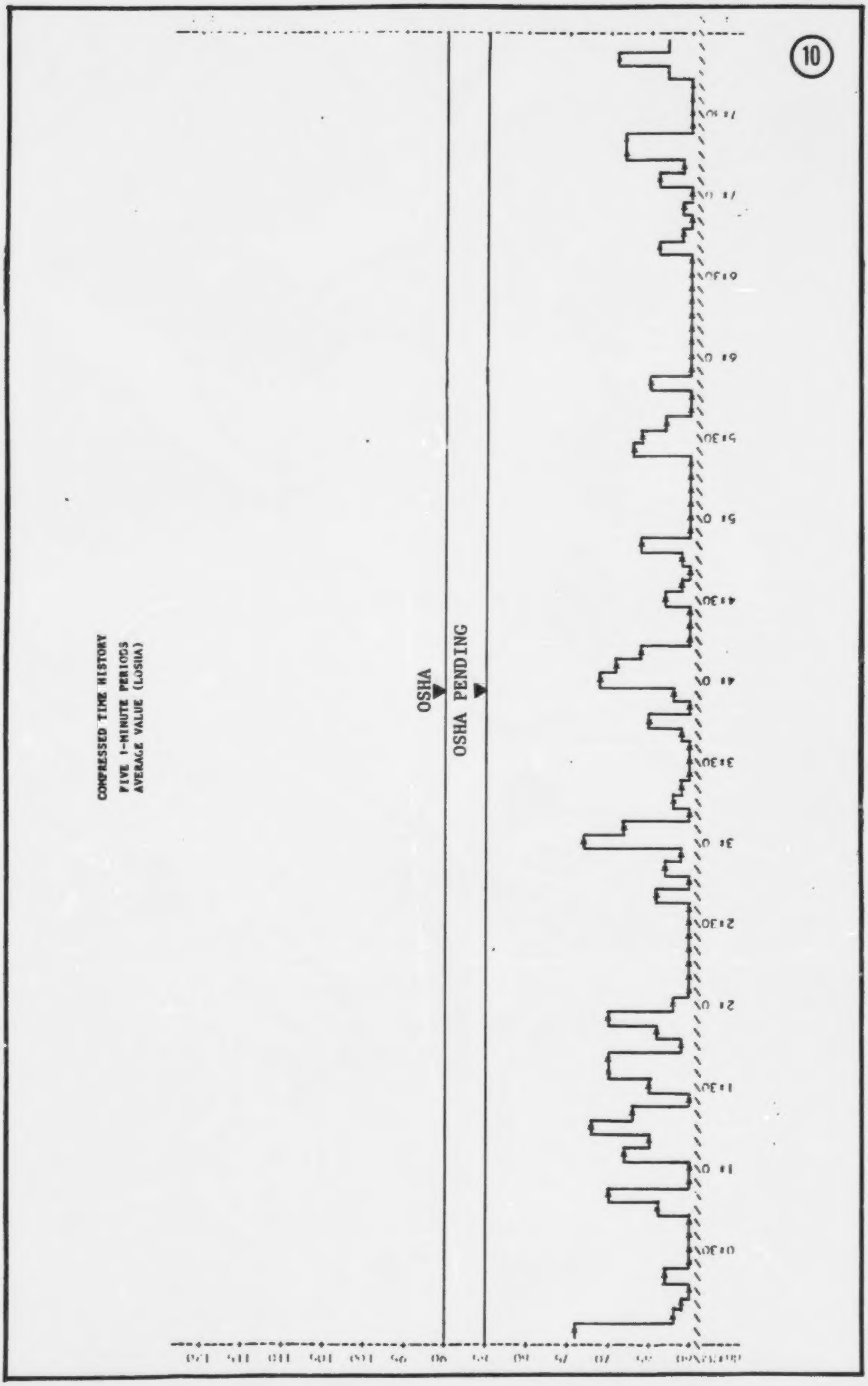
⑩



FREQUENCY DISTRIBUTION				
FREQUENCY		GROUP		
NUMBER	PERCENT			
405	84.4	60	TO	64
38	7.9	65	TO	69
21	4.4	70	TO	74
14	2.9	75	TO	79
2	.4	80	TO	84
0	0.0	85	TO	89
0	0.0	90	TO	94
0	0.0	95	TO	99
0	0.0	100	TO	104
0	0.0	105	TO	109
0	0.0	110	TO	114
0	0.0	115	TO	119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


⑩
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
10:30
11: 0
11:30
12: 0
12:30
13: 0
13:30
14: 0
14:30
15: 0
15:30
16: 0
16:30
17: 0
17:30
120
115
110
105
100
95
90
85
80
75
70
65
60

⑪

Lab. Tech.

```
[illegible]
  1  26  60  1.71   63   64    4    1
  [illegible]   [illegible]   4[illegible]
 75  60  60  64  61  60  62  60  65  70  63  61  61  61  60  61
 60  60  60  60  60  60  61  60  60  64  [illegible]  70  63  62  62  61
 73  60  60  74  72  61  60  60  61  60  [illegible]  60  [illegible]  60  60  60
 60  60  60  60  60  60  60  64  61  60  60  60  [illegible]  60  61  60
 60  60  60  60  60  60  60  60  61  61  60  60  60  62  61  60
 60  64  65  60  60  60  60  [illegible]  60  67  60  61  61  61  64  60
 60  63  61  62  60  60  60  65  62  [illegible]  60  60  57  60  61  60
 65  70  66  61  60  68  60  64  61  50  60  66  60  60  60  60
 60  60  60  60  60  60  60  64  [illegible]  64  50  [illegible]  [illegible]  62  65  60
 63  69  60  62  65  65  60  60  64  60  60  61  [illegible]  62  54  62
 60  60  60  62  61  60  60  60  57  72  67  60  [illegible]  59  61  60
 60  60  60  60  61  60  60  60  57  60  50  60  [illegible]  60  60  60
 60  61  60  62  62  60  60  60  64  64  60  60  62  60  63  60
 60  60  62  60  60  60  66  67  57  70  55  60  66  67  61  64
 64  60  60  60  60  61  67  66  59  60  62  61  60  65  60  69
 62  61  61  63  70  63  60  60  60  61  60  61  60  60  70  70
 66  63  62  63  62  64  67  62  50  70  76  62  60  50  60  60
 60  60  60  60  60  50  61  60  60  61  63  60  60  60  60  65
 60  62  60  60  63  60  60  60  67  60  64  60  61  61  60  64
 61  55  71  63  77  76  73  74  77  78  73  73  76  81  78  75
 71  75  77  82  76  75  79  79  79  73  73  73  75  75  73  65
 79  71  75  83  81  81  76  75  68  74  65  60  61  77  72  60
 76  76  70  71  63  72  69 .66  60  70  66  73  69  74  72  67
 67  64  65  72  70  64  69  71  63  60  63  62  66  69  74  74
 74  71  71  73  65  73  78  72  60  67  77  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  66  65  64  67  67  75  74
 65  55  62  60  60  65  65  60  60  60  62  66  70  66  77  69
 65  62  62  68  60  62  64  61  62  63  67  60  52  63  60  60
 64  65  64  60  70  61  67  66  69  67  64  70  57  60  60  60
%EOF




ENTER LOG DATE (MO/DA/YR) : 03/07/79

ENTER SITE CODE (5 CHARS) : ASSRD
ENTER USER CODE (4 CHARS) : 9743
 ENTER JOB CODE (3 CHARS) : LAT



   DATA LOGGED : 3 JULY 1979          DATA ANALYZED : 28 AUG 1979
        LOGGER : DL-301/26                SITE CODE : ASSRD
 SERIAL NUMBER : 1217                      JOB CODE : LAT
      BASELINE : 50 DB                    USER CODE : 9743
 DYNAMIC RANGE : 64 DB                    THRESHOLD : [illegible]
 SAMPLING RATE : 4/SEC                TOTAL SAMPLES = 1152[illegible]
 TEST DURATION =  8: 0: 0              STANDBY TIME = 4:46:18

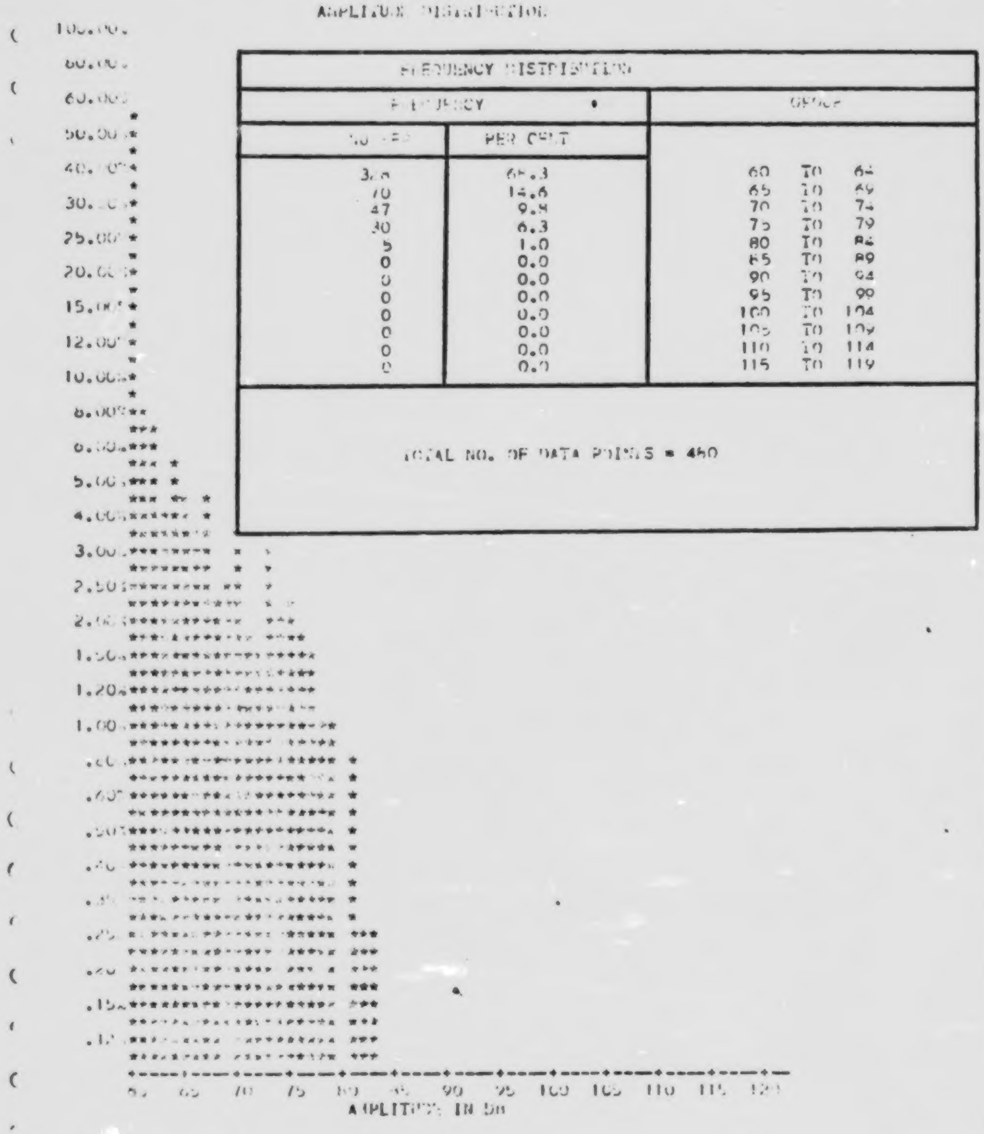
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOUDNA                    DOSE
NOS.     CURRENT  CUMULATIVE       CURRENT   CUMULATIVE
  1        63.9       63.9           .34[illegible]      .3[illegible]
  2        62.5       63.2           .270      .6[illegible]
  3        62.1       62.9           .263      .87
  4        62.6       62.8           .292      1.15
  5        [illegible]       62.8           .22[illegible]      1.4[illegible]
  6        74.[illegible]       [illegible].6          1.4[illegible]      2.[illegible]
  7        7[illegible]       66.1           .5[illegible]      4.[illegible]
  8        [illegible]       [illegible].6           .419      [illegible]
MIN. COMP. =  60 DB              MAX. COMP. = [illegible]3 DB
[illegible]
[illegible]
[illegible]
```

⑪

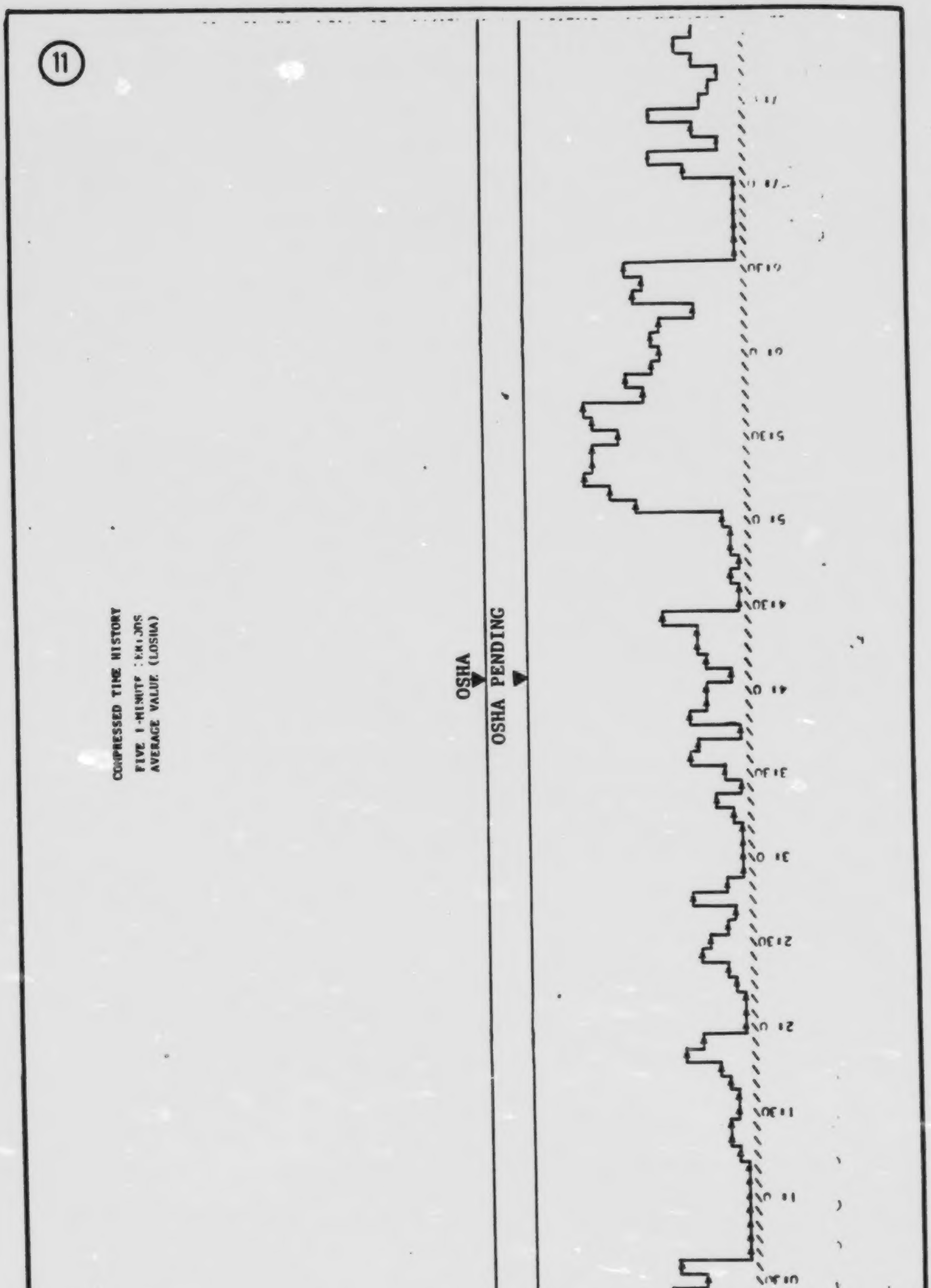
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NO. OF	PER CENT	
328	68.3	60 TO 64
70	14.6	65 TO 69
47	9.8	70 TO 74
30	6.3	75 TO 79
5	1.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


⑪
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
60
10:30
11:0
11:30
12:0
12:30
13:0
13:30
14:0
14:30
15:0
15:30
16:0
16:30
17:0
17:30

Lab. Tech. ⑫

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  30  1214   60   64    4    1
   [illegible]     112073  466
  64  60  61  66  64  64  60  66  61  65  60  70  64  60  60  60
  64  62  61  63  60  62  60  69  60  60  60  62  60  60  60  60
  72  60  76  65  62  60  61  66  63  70  72  71  60  60  81  64
  64  60  60  60  60  60  60  61  60  60  60  71  67  64  62  60
  62  60  64  67  60  63  60  60  60  61  60  62  60  60  60  60
  64  60  60  61  60  66  71  60  60  60  60  60  60  60  60  60
  60  62  62  60  60  60  60  60  60  60  60  60  60  60  60  60
  61  62  60  60  60  60  60  60  62  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  63  60  61  60  62  60  61  67
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  63  60  61  60  60  62  62  64  60  60  60  66  62  62
  62  60  60  60  61  64  61  65  64  64  62  62  66  64  62  60
  67  68  65  67  60  66  62  66  59  64  62  61  62  60  60  60
  62  71  70  62  64  62  66  69  67  68  66  63  67  62  71  73
  65  63  67  61  64  60  60  61  60  60  60  60  62  66  61  64
  63  64  60  60  60  60  60  65  60  60  61  65  62  63  60  61
  62  60  60  60  60  60  60  60  62  63  63  63  61  64  64  63
  62  64  65  61  60  60  63  60  62  65  64  62  64  62  62  60
  63  62  61  61  62  62  62  60  61  60  61  62  59  70  70  70
  73  75  71  69  65  67  67  70  72  67  70  69  73  71  68  66
  65  70  72  73  70  71  69  69  68  64  67  69  70  68  70  68
  66  68  73  78  75  71  68  66  78  68  60  66  60  60  60  60
  61  60  60  60  60  60  60  61  65  60  60  60  60  60  60  60
  61  60  61  60  64  71  60  60  65  60  60  60  60  61  63  60
  62  60  60  70  69  78  68  63  67  61  61  60  68  63  61  60
  60  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  63  64  64  65  60  65  63  64  67
  63  60  61  60  60  60  60  60  60  60  87  76  88  77  80  75
  64  68  62  67  64  60  64  60  61  65  65  61  62  60  63  63
  63  66  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (MO/DY/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : AAALA
ENTER USER CODE (4 CHARS) : 9754
 ENTER JOB CODE (3 CHARS) : LAT



   DATA LOGGED : 3 JULY 1979          DATA ANALYZED : 28  AUG 1979
        LOGGER : DB-301/26                SITE CODE : AAALA
 SERIAL NUMBER : 1214                      JOB CODE : LAT
      BASELINE : 60 DB                    USER CODE : 9754
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  112073
 TEST DURATION =   7:46:58             STANDBY TIME =   4:22: 1

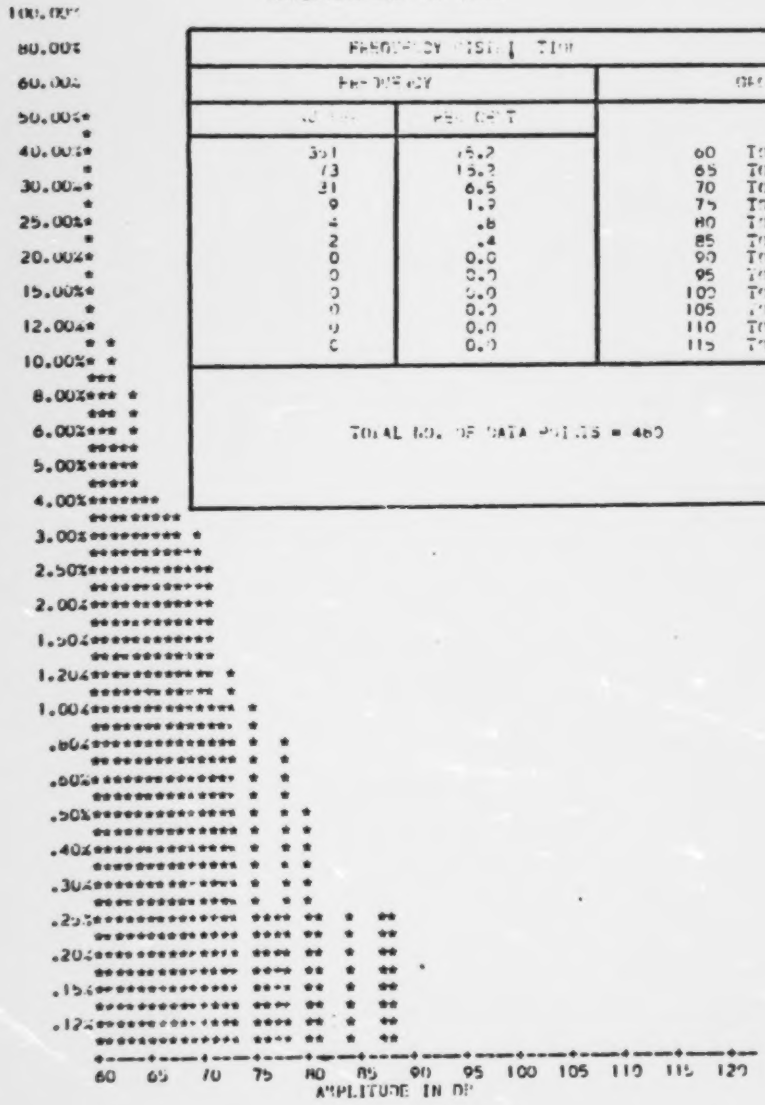
          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 466
 PERIOD =  1 MINUTES

 TIME         LOSHA                        %DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1      66.0      66.0             .451       .45
    2      61.6      64.1             .243       .69
    3      60.8      63.2             .218       .91
    4      64.7      63.6             .376      1.29
    5      61.9      63.3             .254      1.54
    6      69.1      64.6             .667      2.23
    7      63.1      64.4             .299      2.53
    8      71.3      66.5             .715      3.24
 MIN. COMP. =  60 DB               MAX. COMP. =  8[illegible] DB
 A[illegible] = [illegible] DB
 STD. DEVIATION = [illegible]
 VARIANCE = 16.[illegible]
```

⑫

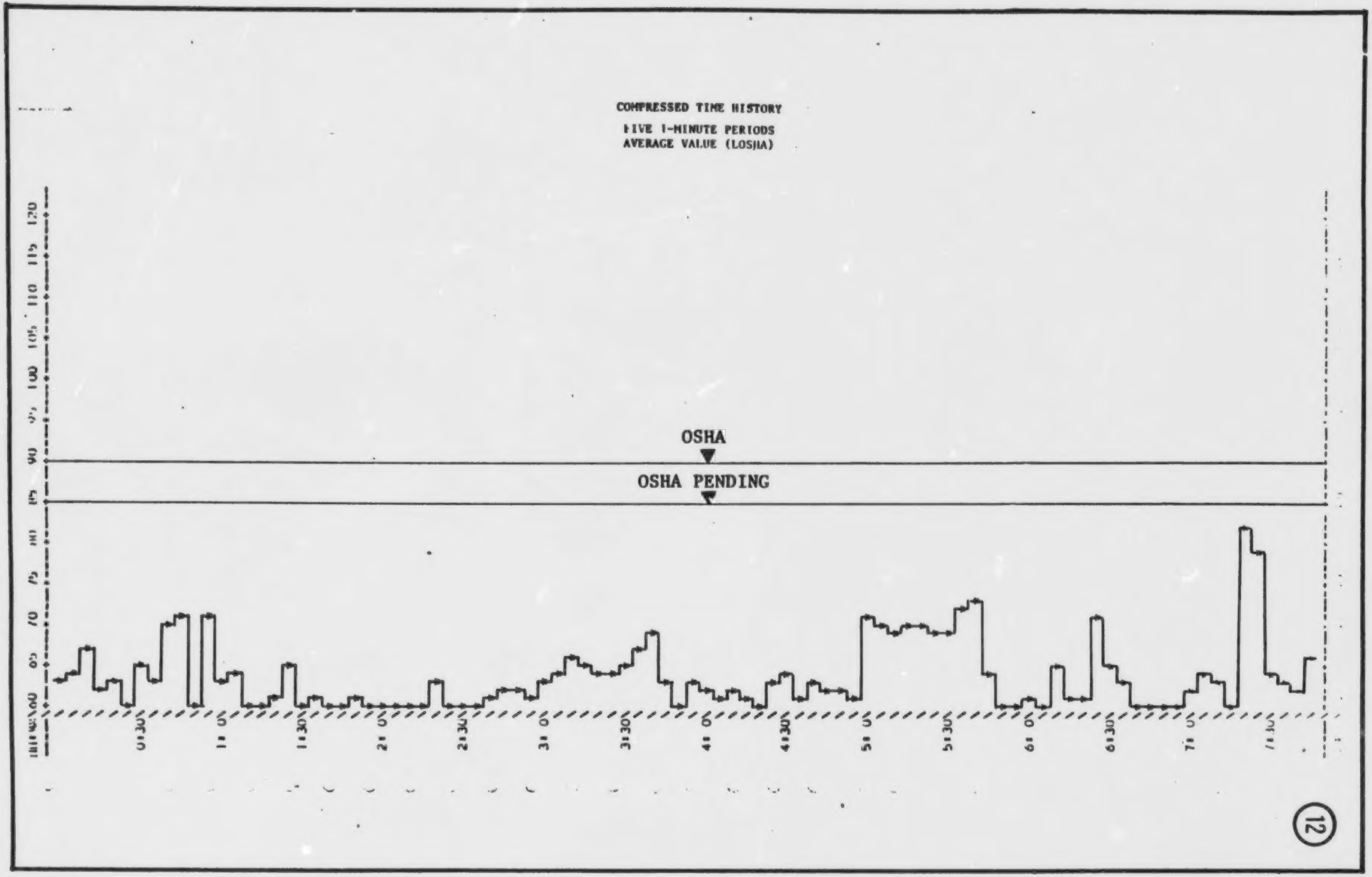
AMPLITUDE DISTRIBUTION



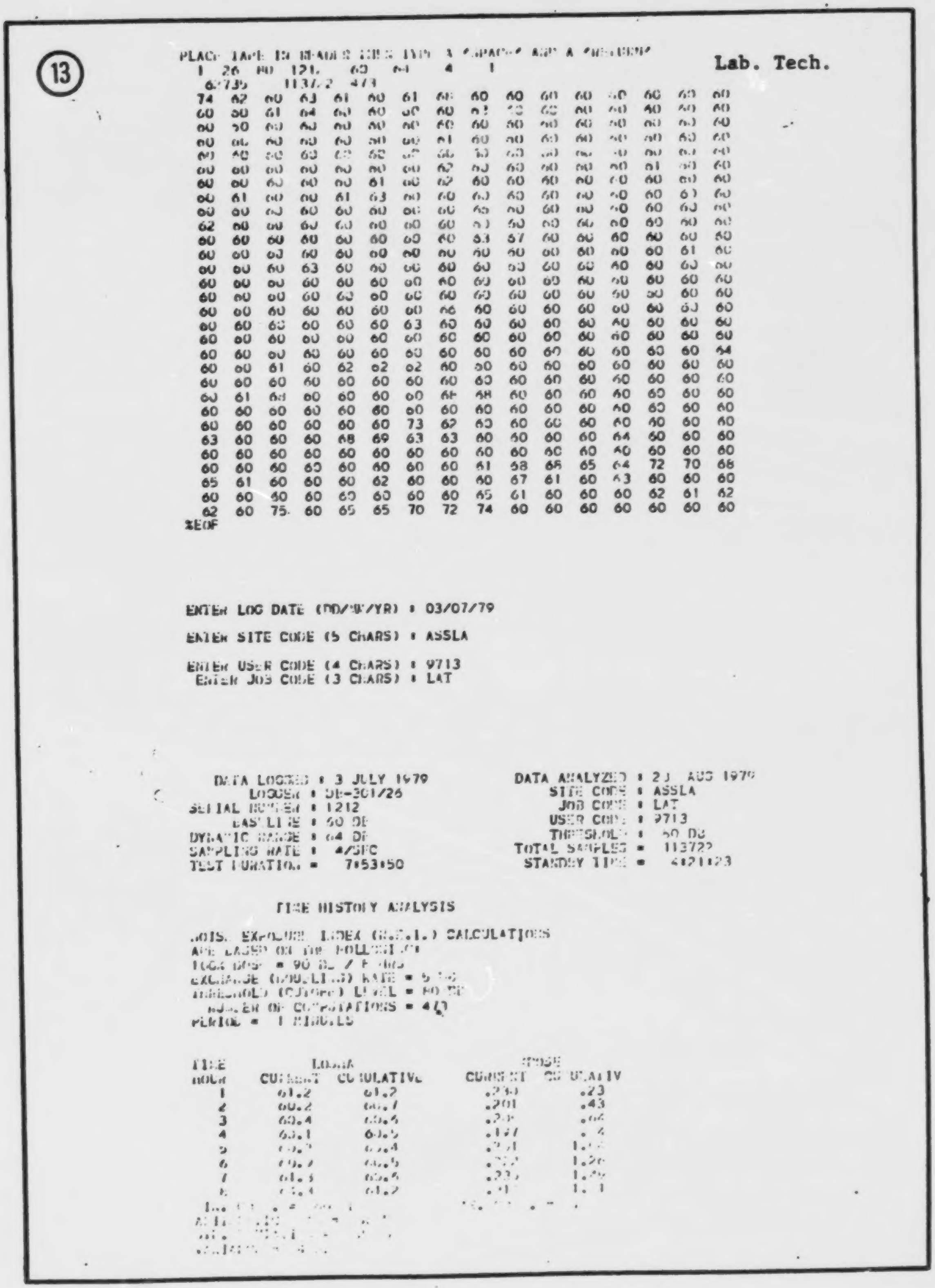
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PERCENT	
351	75.2	60 TO 64
73	15.2	65 TO 69
31	6.5	70 TO 74
9	1.9	75 TO 79
4	.6	80 TO 84
2	.4	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 460

Number of computations = 466



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A #SPACE# AND A #RETURN#
  1  26  80  121.     60   64     4    1
  62735      113722   473
  74  62  60  63  61  60  61  66  60  60  60  60  60  60  60  60
  60  50  61  64  60  60  60  60  61  60  60  60  60  60  60  60
  60  50  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60  60
  60  60  60  63  62  62  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  62  60  60  60  60  60  61  60  60
  60  60  60  60  60  61  60  62  60  60  60  60  60  60  60  60
  60  61  60  60  61  63  60  60  60  60  60  60  60  60  61  60
  60  60  60  60  60  60  60  60  65  60  60  60  60  60  60  60
  62  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  53  57  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61  60
  60  60  60  63  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  63  60  60  60  60  60  60  60  50  50  60  60
  60  60  60  60  60  60  60  66  60  60  60  60  60  60  63  60
  60  60  63  60  60  60  63  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  64
  60  60  61  60  62  62  62  60  50  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
  60  61  68  60  60  60  60  66  68  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  73  62  63  60  60  60  60  60  60  60
  63  60  60  60  68  69  63  63  60  60  60  60  64  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  61  58  66  65  64  72  70  68
  65  61  60  60  60  62  60  60  60  67  61  60  63  60  60  60
  60  60  60  60  60  60  60  60  65  61  60  60  60  62  61  62
  62  60  75. 60  65  65  70  72  74  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (MO/DY/YR) : 03/07/79

ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 9713
 ENTER JOB CODE (3 CHARS) : LAT



     DATA LOGGED : 3 JULY 1979              DATA ANALYZED : 23  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : ASSLA
   SERIAL NUMBER : 1212                          JOB CODE : LAT
        BASELINE : 60 DB                        USER CODE : 9713
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  60 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  113722
   TEST DURATION =    7:53:50                STANDBY TIME =   4:21:23

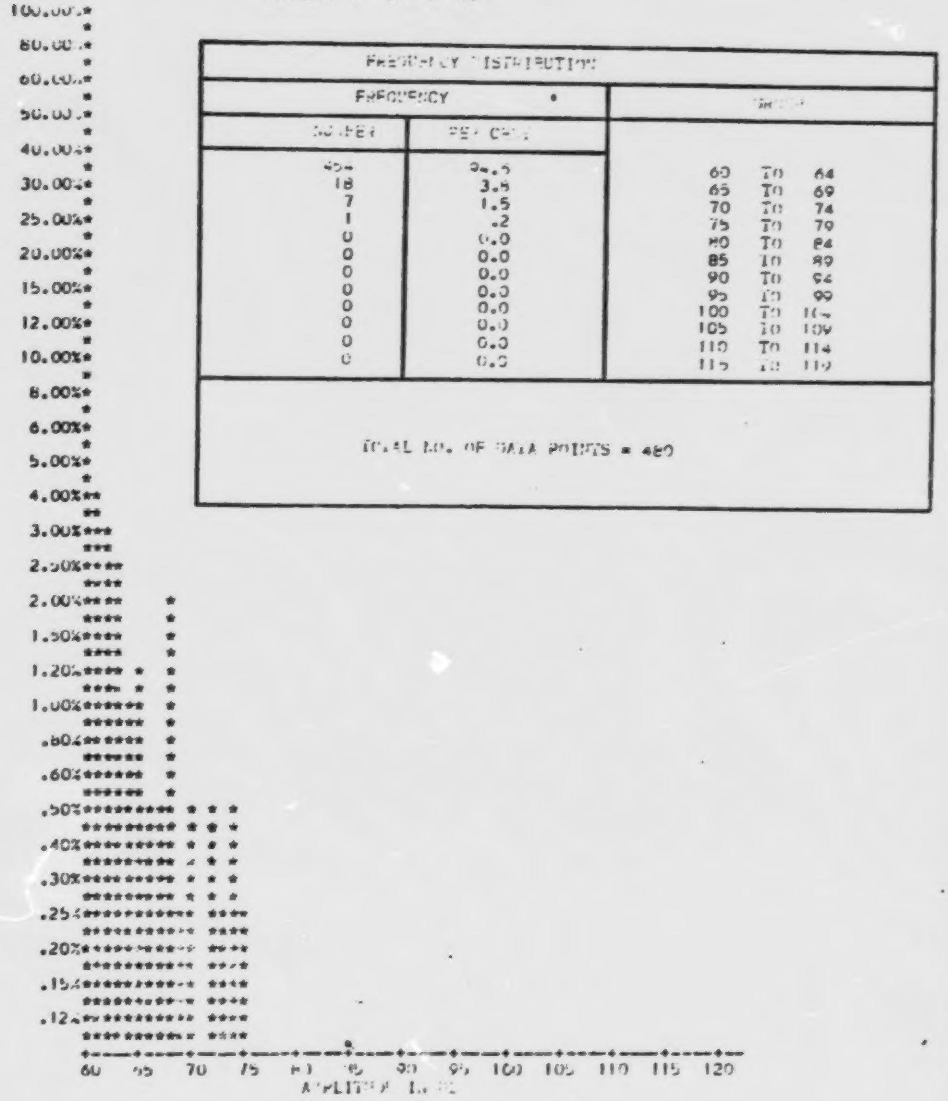
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 4[illegible]
PERIOD = 1 MINUTES


TIME          LOSHA                        DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT   CUMULATIV
  1       61.2      61.2              .230        .23
  2       60.2      60.7              .201        .43
  3       60.4      60.6              .2[illegible]        .6[illegible]
  4       60.1      60.5              .1[illegible]7        .[illegible]
  5       6[illegible]       6[illegible].4              .2[illegible]1        1.[illegible]
  6       60.7      60.5              .2[illegible]        1.26
  7       61.3      60.6              .23[illegible]        1.4[illegible]
  8       6[illegible].4      61.2              .[illegible]1[illegible]        1.[illegible]1
```

⑬

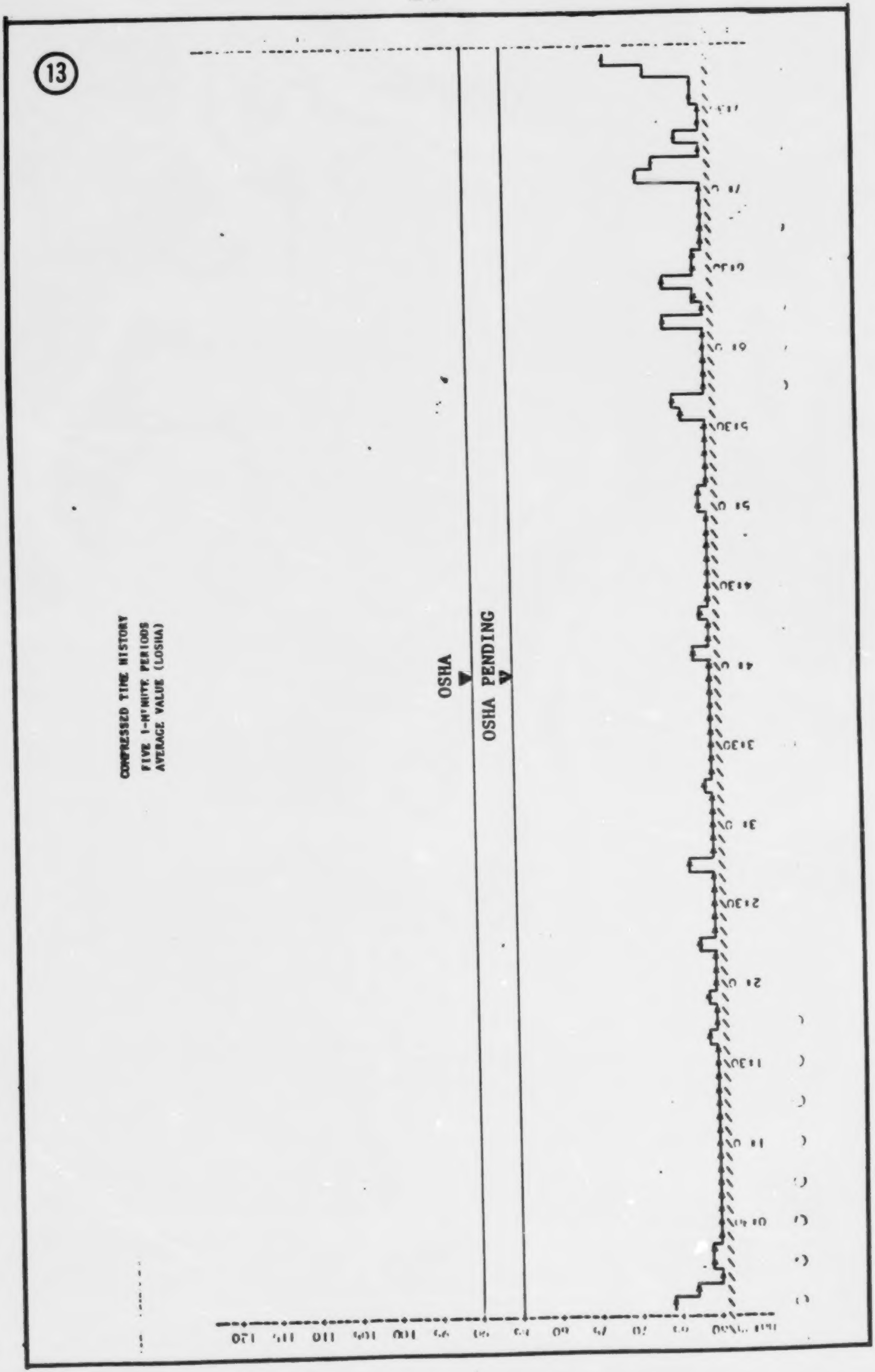
'AMPLITUDE DISTRIBUTION'

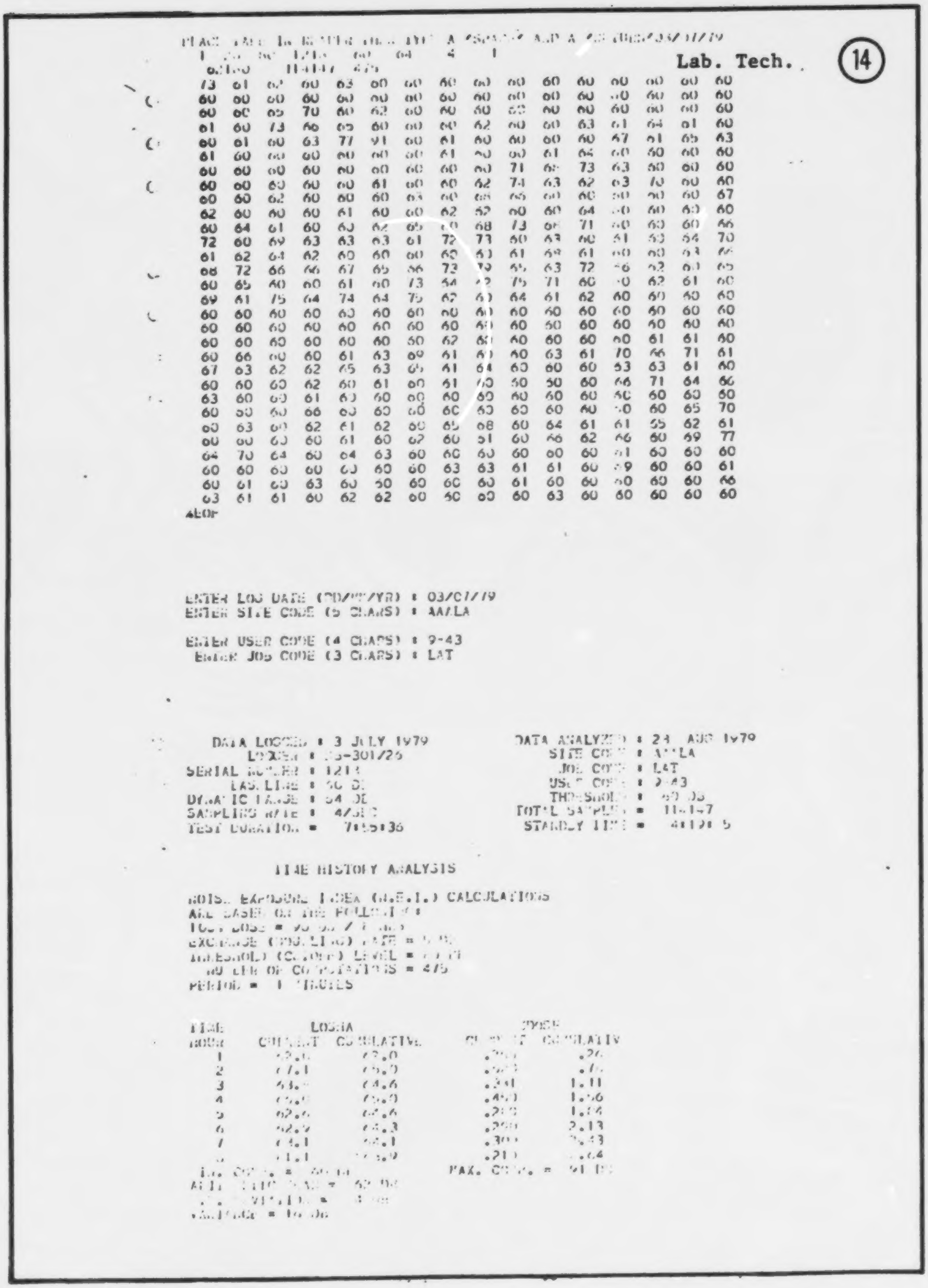


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
454	94.6	60 TO 64
18	3.8	65 TO 69
7	1.5	70 TO 74
1	.2	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 473


13
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
11:30
12:30
13:30
14:30
15:30
16:30



Lab. Tech.

⑭

```
PLACE TAPE IN READER [illegible] A [illegible] A [illegible]/79
 1 [illegible] 1213   60   64     4     1
 0.1[illegible]    11447  475
 73  61  62  60  63  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  65  70  60  62  60  60  60  60  60  60  60  60  60  60
 61  60  73  66  65  60  60  60  62  60  60  63  61  64  61  60
 60  61  60  63  77  91  60  61  60  60  60  60  67  61  65  63
 61  60  60  60  60  60  60  61  60  60  61  64  60  60  60  60
 60  60  60  60  60  60  60  60  60  71  68  73  63  60  60  60
 60  60  60  60  60  61  60  60  62  74  63  62  63  70  60  60
 60  60  62  60  60  60  63  60  68  65  60  60  60  60  60  67
 62  60  60  60  61  60  60  62  62  60  60  64  60  60  60  60
 60  64  61  60  63  62  65  60  68  73  68  71  60  60  60  66
 72  60  69  63  63  63  61  72  73  60  63  60  61  63  64  70
 61  62  64  62  60  60  60  60  61  61  69  61  60  60  63  66
 68  72  66  66  67  65  66  73  79  65  63  72  66  62  60  65
 60  65  60  60  61  60  73  64  62  75  71  60  60  62  61  60
 69  61  75  64  74  64  75  67  61  64  61  62  60  60  60  60
 60  60  60  60  63  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  62  60  60  60  60  60  61  61  60
 60  66  60  60  61  63  69  61  61  60  63  61  70  66  71  61
 67  63  62  62  65  63  65  61  64  60  60  60  63  63  61  60
 60  60  60  62  60  61  60  61  60  60  60  60  66  71  64  66
 63  60  60  61  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  66  60  60  60  60  60  60  60  60  60  60  65  70
 60  63  60  62  61  62  60  65  68  60  64  61  61  65  62  61
 60  60  60  60  61  60  62  60  61  60  66  62  66  60  69  77
 64  70  64  60  64  63  60  60  60  60  60  60  61  60  60  60
 60  60  60  60  60  60  60  63  63  61  61  60  69  60  60  61
 60  61  60  63  60  60  60  60  60  61  60  60  60  60  60  66
 63  61  61  60  62  62  60  60  60  60  63  60  60  60  60  60
EOF


ENTER LOG DATE (DD/MM/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : AAALA

ENTER USER CODE (4 CHARS) : 9-43
 ENTER JOB CODE (3 CHARS) : LAT



     DATA LOGGED : 3 JULY 1979            DATA ANALYZED : 28 AUG 1979
          LOGGER : [illegible]5-301/25          SITE CODE : AAALA
   SERIAL NUMBER : 1213                        JOB CODE : LAT
        BASELINE : 50 DB                      USER CODE : 9-43
   DYNAMIC RANGE : 54 DB                      THRESHOLD : 60 DB
   SAMPLING RATE : 4/SEC                  TOTAL SAMPLES =  11447
   TEST DURATION =   7:55:36               STANDBY TIME =   4:19: 5

              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 475
PERIOD = 1 MINUTES

TIME           LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIV
  1       62.0      62.0            .2[illegible]       .26
  2       67.1      65.9            .5[illegible]       .76
  3       63.[illegible]      64.6            .341      1.11
  4       65.0      65.0            .450      1.56
  5       62.6      64.6            .2[illegible]      1.84
  6       62.9      64.3            .290      2.13
  7       64.1      64.1            .300      2.43
  8       61.1      63.9            .210      2.64
 MIN. CONC. = 60 DB                MAX. CONC. =  91 DB
ARITHMETIC MEAN =  62 DB
 STD. DEVIATION =  3 DB
RANGE = 1[illegible] DB
```

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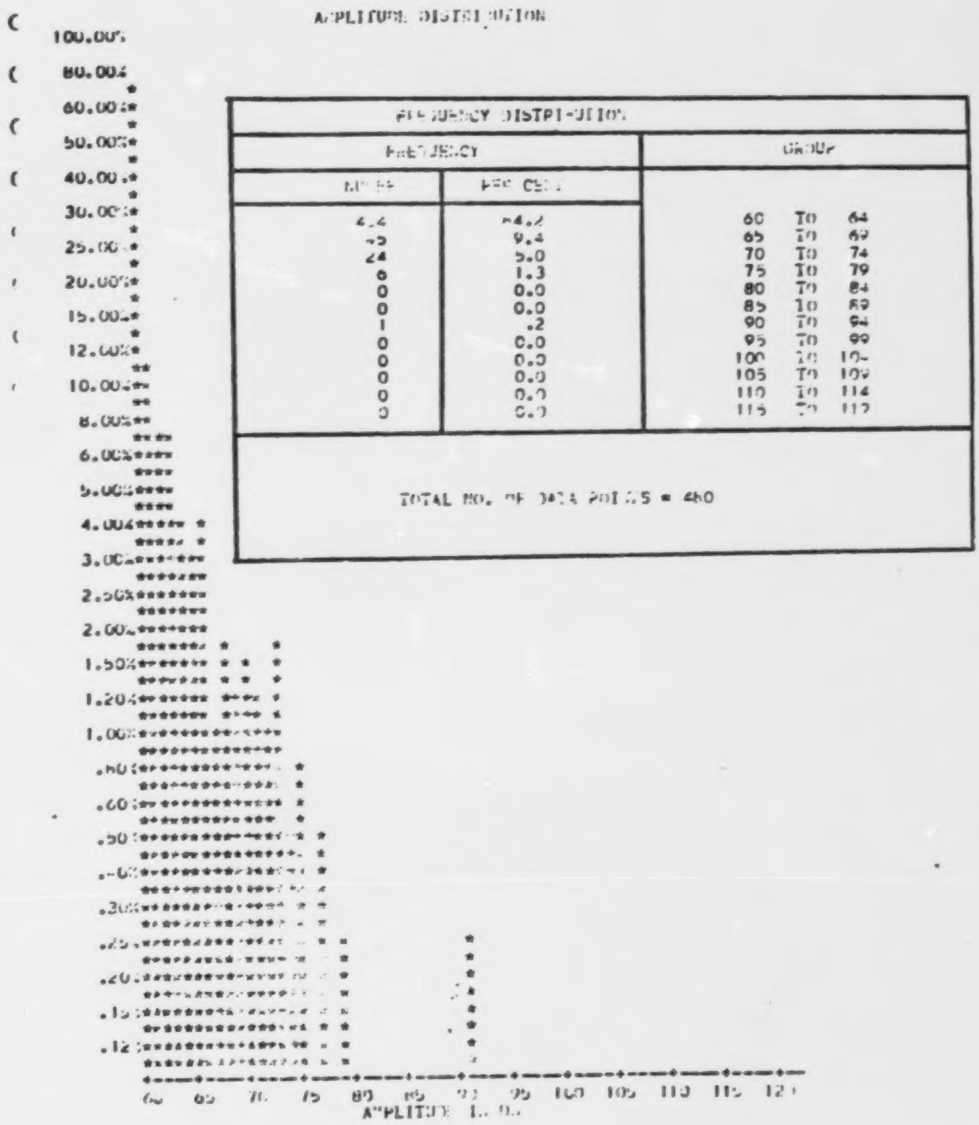


AMPLITUDE DISTRIBUTION

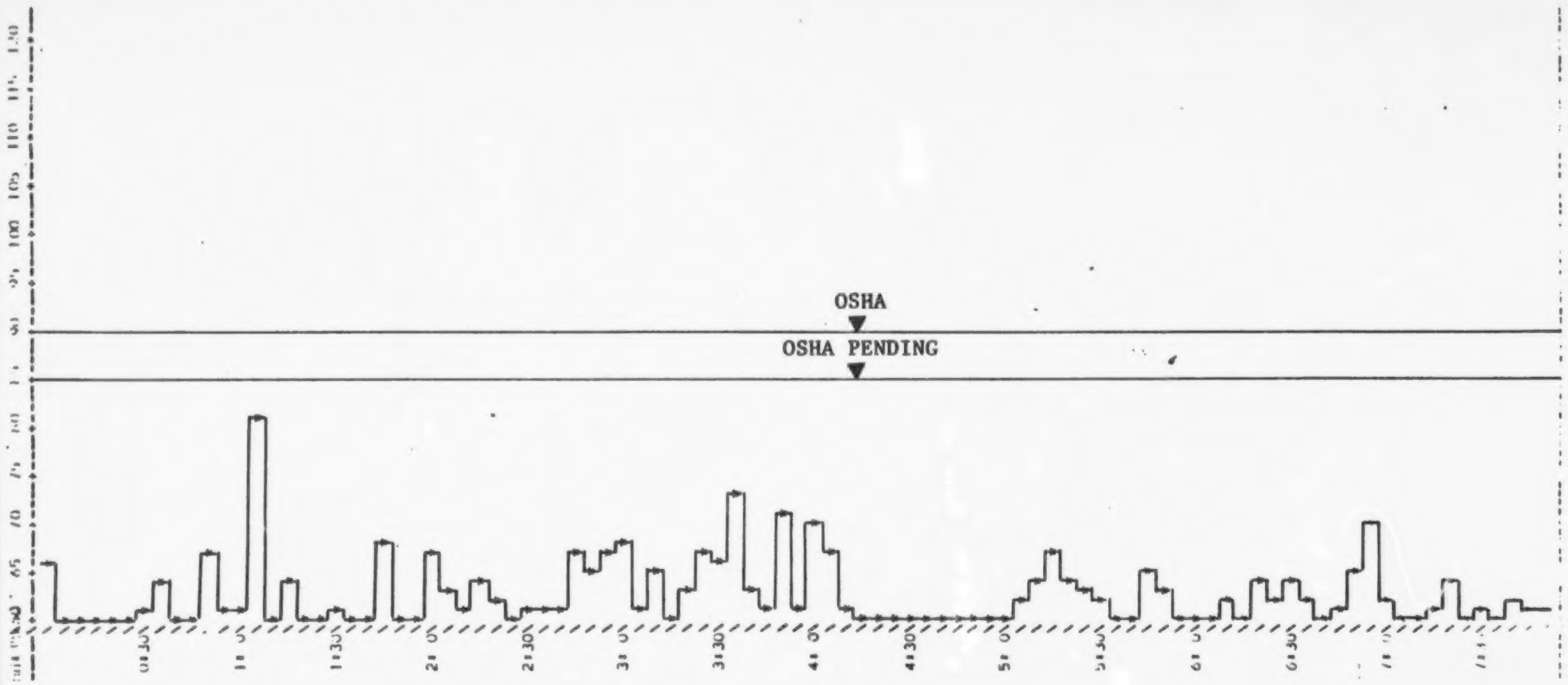
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
404	84.2	60 TO 64
45	9.4	65 TO 69
24	5.0	70 TO 74
6	1.3	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 475

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑭

⑮

Lab. Tech.

```
PLACE TAPE IN DRAWER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1213   60    64     4     1
   6/177      111263   463
   82  70  66  73  67  60  68  79  79  80  72  71  70  77  69  70
   65  62  66  69  64  60  60  60  63  61  76  67  52  60  63  72
   60  64  64  77  65  60  67  78  60  82  61  71  61  72  60  75
   72  75  69  78  72  80  79  77  72  60  60  45  50  71  69  67
   60  69  62  60  62  60  60  64  50  60  60  67  60  50  50  60
   60  60  60  80  60  60  60  50  51  51  60  60  60  50  60  60
   60  60  60  65  63  66  72  76  71  77  78  63  50  62  70  62
   62  61  64  60  73  74  72  68  75  74  73  64  62  71  71  64
   62  78  79  73  71  68  65  60  50  60  60  60  60  62  64  66
   60  65  69  70  76  66  65  67  61  74  74  64  60  60  63  76
   62  60  60  83 105  83  60  60  50  62  71  82  77  77  69  69
   75  62  60  69  64  70  60  60 100  60  60  60  50  50  60  60
   60  60  60  60  60  60  60  60  61  60  60  60  50  54  63  72
   73  71  73  60  63  60  62  66  71  63  63  66  64  77  66  69
   60  60  60  60  60  60  60  60  60  60  60  60  50  60  60  60
   60  60  60  60  63  60  60  60  53  60  60  60  50  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  63  60  60  60  50  60  60  60  60  50  70  64
   60  60  63  60  63  60  60  60  70  67  66  61  67  65  70  80
   65  61  75  76  77  65  60  60  60  62  60  60  60  60  60  65
   66  64  60  60  60  65  65  64  65  62  60  60  60  60  60  66
   70  75  72  61  61  68  67  62  65  64  71  74  77  65  60  74
   73  66  60  77  61  61  56  73  75  64  70  66  55  72  72  69
   61  60  60  60  60  60  62  70  64  62  61  60  60  60  60  60
   60  60  63  61  67  60  60  60  60  60  60  69  66  61  73  73
   64  65  63  78  64  60  61  71  68  69  76  81  77  79  77  79
   79  80  62  82  80  83  81  82  85  82  79  84  79  82  75  81
   71  71  82  72  60  71  64  60  64  61  69  68  68  67  65  68
   69  67  71  60  74  63  62  66  66  67  73  80  72  75  75  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 9704
 ENTER JOB CODE (3 CHARS) : LAT


   DATA LOGGED : 3 JULY 1979            DATA ANALYZED : 28  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : ASSLA
 SERIAL NUMBER : 1213                        JOB CODE : LAT
      BASELINE : 60 DB                      USER CODE : 9704
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  111263
 TEST DURATION =   7:43:35               STANDBY TIME =   4:39:54

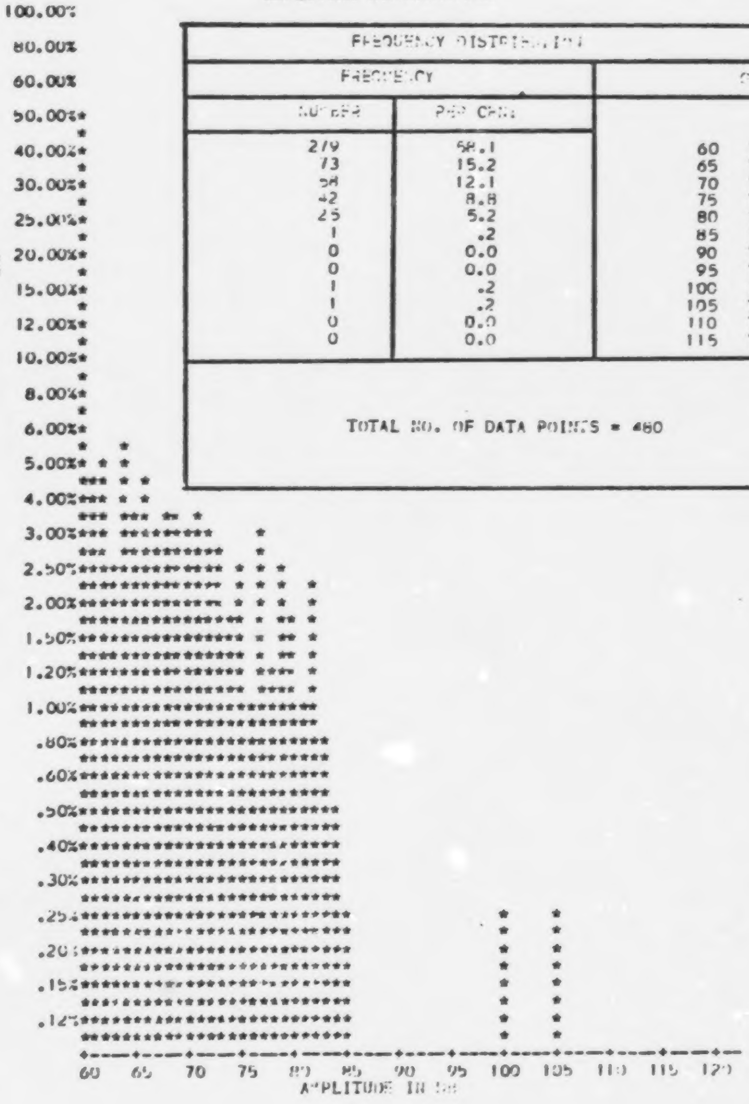
             TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = -
   NUMBER OF COMPUTATIONS = 463
 PERIOD =  1 MINUTES


 TIME           LOSHA                    %DOSE
 HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
    1       72.4      72.4          1.094      1.09
    2       66.2      70.0           .459      1.55
    3       78.4      74.0          2.507      4.06
    4       73.5      73.8          1.260      5.32
    5       61.1      72.5           .227      5.55
    6       68.8      72.0           .657      6.21
    7       70.7      71.9           .866      7.07
    8       75.6      72.3          1.214      8.29
 MIN. COMP. =  60 DB              MAX. COMP. = 105 DB
 ARITHMETIC MEAN =  65 DB
 STD. DEVIATION =   7 DB
 VARIANCE = 47 DB
```

⑮

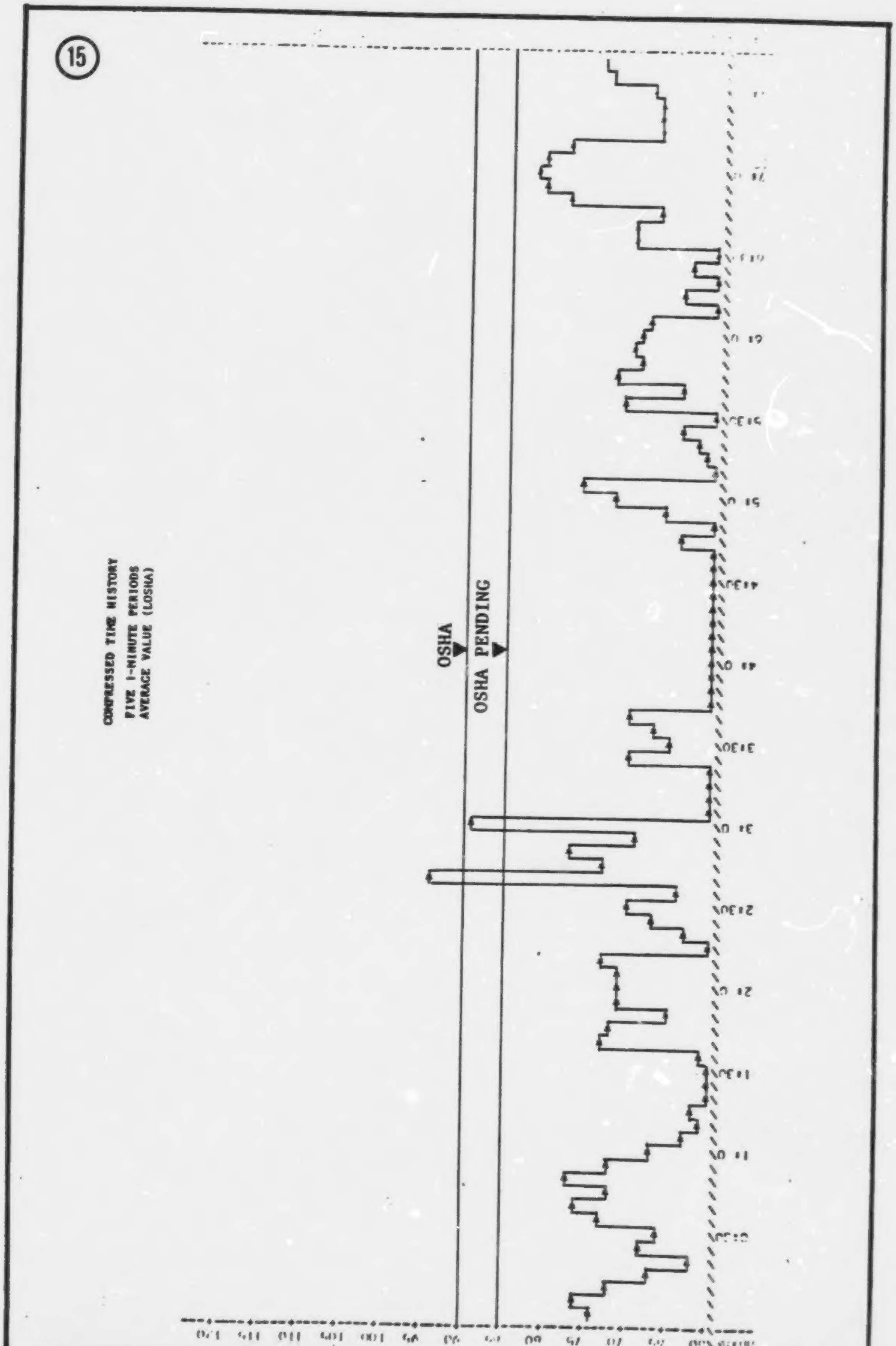
AMPLITUDE DISTRIBUTION

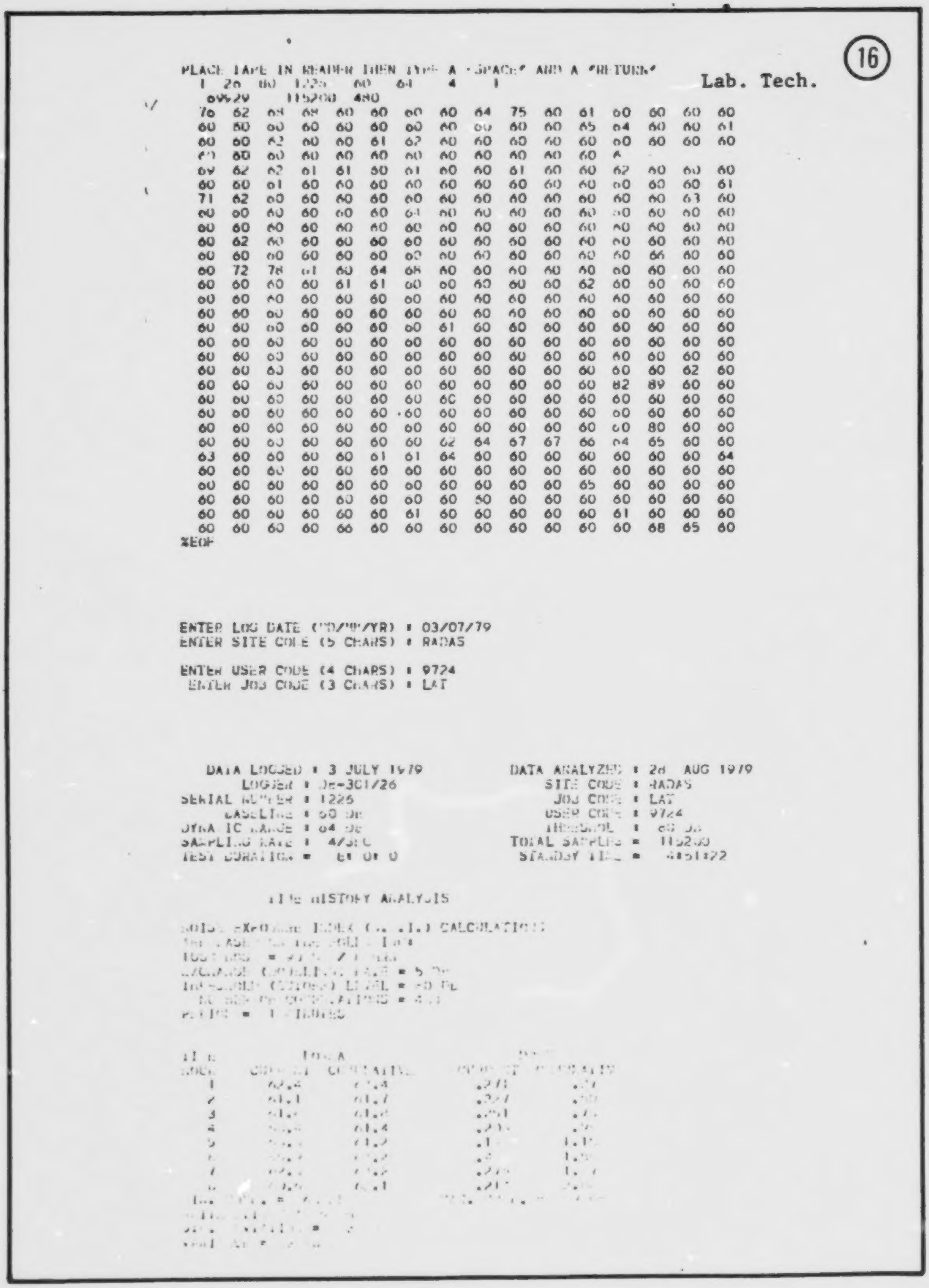


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
279	58.1	60 TO 64
73	15.2	65 TO 69
58	12.1	70 TO 74
42	8.8	75 TO 79
25	5.2	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
1	.2	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 463


15
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING



⑯

Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
   1  26  80  1226    60    64     4     1
   69529      115200  480
   76   62   68   68   60   60   60   60   64   75   60   61   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   65   64   60   60   61
   60   60   62   60   60   61   62   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   6
   69   62   62   61   61   60   61   60   60   61   60   60   62   60   60   60
   60   60   61   60   60   60   60   60   60   60   60   60   60   60   60   61
   71   62   60   60   60   60   60   60   60   60   60   60   60   60   63   60
   60   60   60   60   60   60   64   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   62   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   66   60   60
   60   72   78   61   60   64   68   60   60   60   60   60   60   60   60   60
   60   60   60   60   61   61   60   60   60   60   60   62   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   61   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   62   60
   60   60   60   60   60   60   60   60   60   60   60   60   82   89   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   80   60   60
   60   60   60   60   60   60   60   62   64   67   67   66   64   65   60   60
   63   60   60   60   60   61   61   64   60   60   60   60   60   60   60   64
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   65   60   60   60   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
   60   60   60   60   60   60   61   60   60   60   60   60   61   60   60   60
   60   60   60   60   66   60   60   60   60   60   60   60   60   68   65   60
%EOF


ENTER LOG DATE (MO/DY/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : RADAS

ENTER USER CODE (4 CHARS) : 9724
 ENTER JOB CODE (3 CHARS) : LAT


   DATA LOGGED : 3 JULY 1979             DATA ANALYZED : 28  AUG 1979
        LOGGER : DS-301/26                   SITE CODE : RADAS
 SERIAL NUMBER : 1226                         JOB CODE : LAT
      BASELINE : 60 DB                       USER CODE : 9724
 DYNAMIC RANGE : 64 DB                       THRESHOL  :  60 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   4:51:22

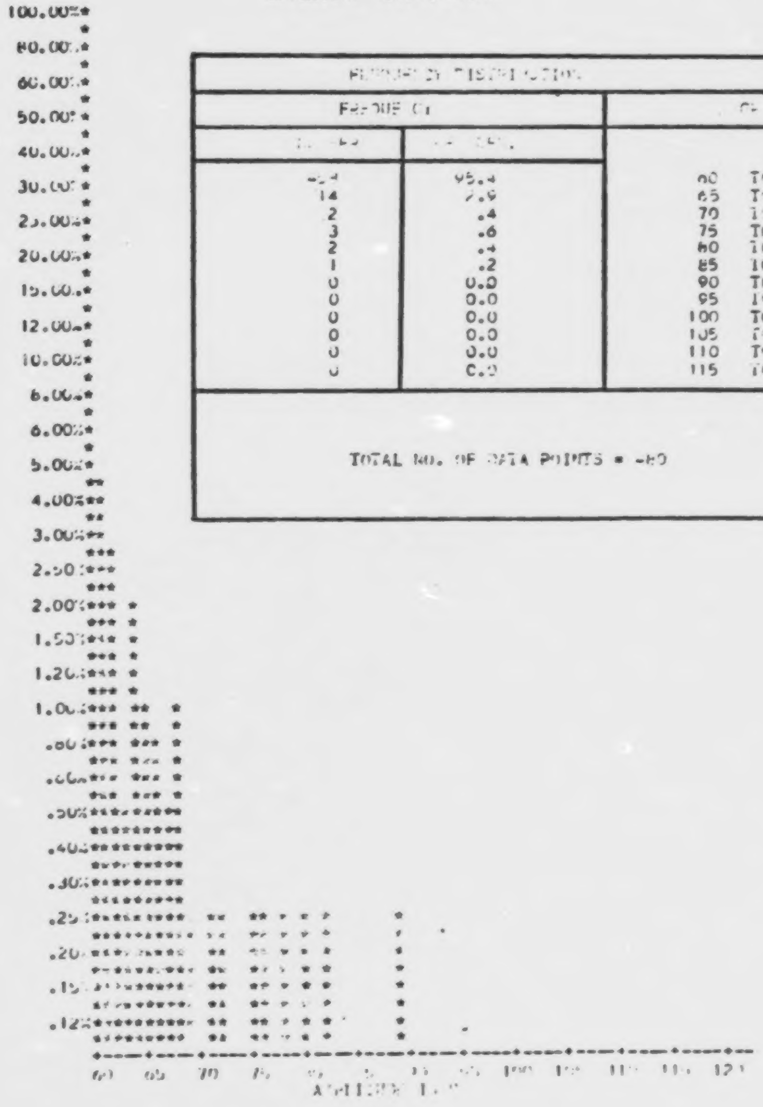
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
[illegible]
TEST DUR = [illegible]
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
NUMBER OF OBSERVATIONS = [illegible]
PERIOD = 1 [illegible]

TIME         LOSA                          DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       62.4        6[illegible].4             .27[illegible]       .2[illegible]
   2       61.1        61.7             .2[illegible]7       .5[illegible]
   3       61.[illegible]        61.[illegible]             .2[illegible]1       .7[illegible]
   4       [illegible]        61.4             .2[illegible]       .9[illegible]
   5       [illegible]        61.2             .1[illegible]       1.1[illegible]
   6       [illegible]        [illegible]             .[illegible]       1.[illegible]
   7       [illegible]        [illegible]             .2[illegible]       1.[illegible]
   8       [illegible]        [illegible].1             .21[illegible]       [illegible]
 [illegible] = [illegible]                [illegible]
[illegible]
[illegible] = [illegible]
[illegible]
```

⑯

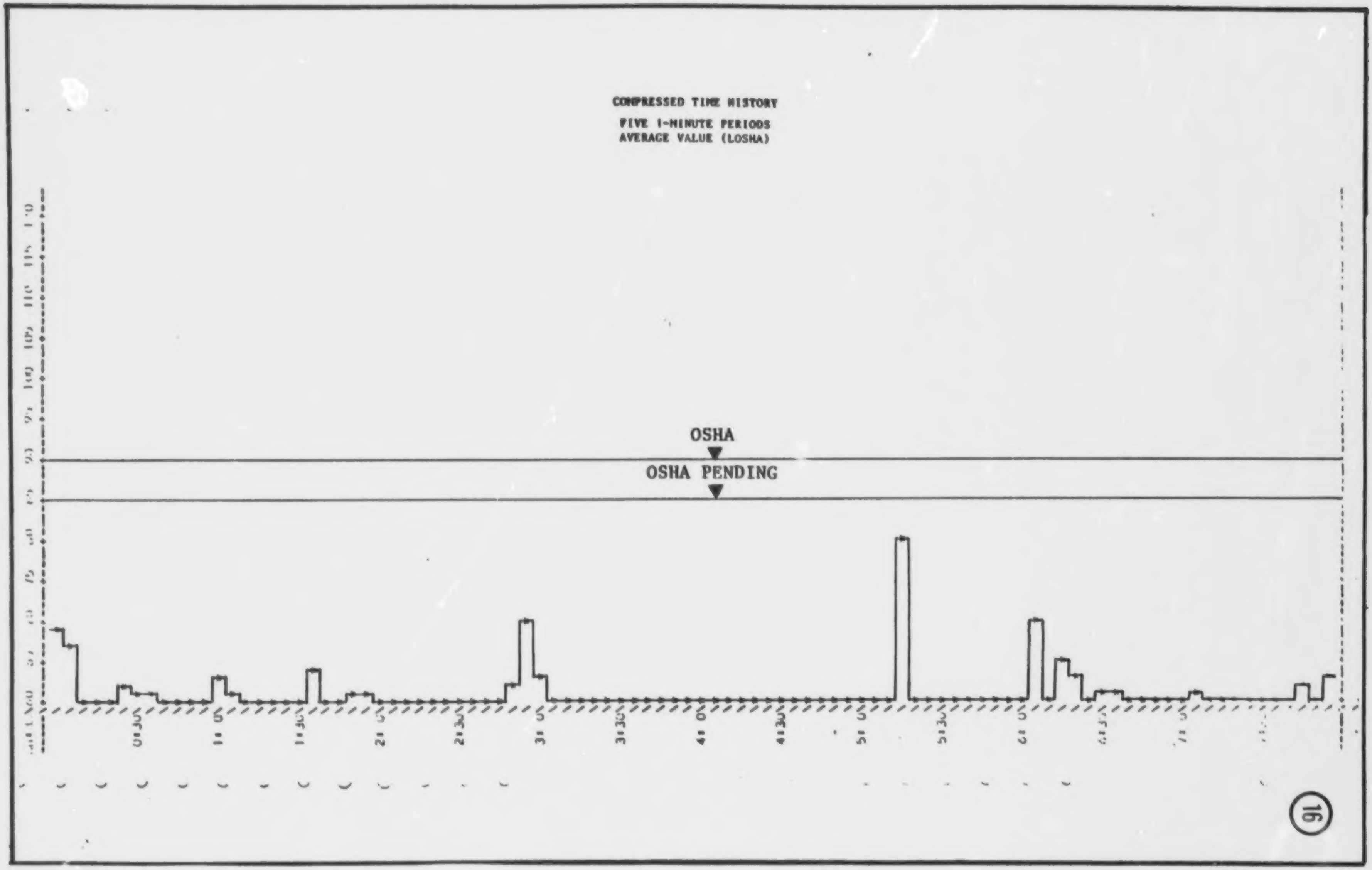
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		RANGE
NUMBER	PERCENT	
458	95.4	60 TO 64
14	2.9	65 TO 69
2	.4	70 TO 74
3	.6	75 TO 79
2	.4	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
16

⑰

Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]
 1  26  [illegible]  1216   60   64    4    1
  74104      115200  260
 60  63  63  67  60  61  72  63  62  60  60  60  60  62  63  60
 61  [illegible]  62  60  60  60  61  62  61  60  60  60  60  60  63  62
 60  60  62  65  60  60  60  60  60  61  60  60  62  63  60  60
 60  66  63  65  71  60  70  60  60  60  62  64  54  63  65  60
 60  60  60  60  60  60  61  60  60  60  60  60  60  [illegible]  60  [illegible]
 60  60  60  64  62  60  60  60  60  60  60  60  [illegible]  62  61  71
 60  67  60  61  63  64  67  67  61  62  64  63  63  63  60  60
 60  63  62  64  62  60  61  60  60  61  60  60  60  60  60  60
 61  60  60  63  65  61  60  63  60  63  60  60  60  60  61  60
 60  60  62  66  64  69  64  67  63  60  62  60  60  60  61  60
 63  60  60  60  60  60  60  64  60  60  60  61  60  60  61  60
 61  60  65  68  65  67  60  60  61  65  63  61  66  67  65  7[illegible]
 76  69  60  63  60  60  60  60  62  60  60  60  60  60  61  63
 66  67  70  70  72  60  60  60  65  65  60  66  60  60  67  60
 66  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  63  63  66
 64  60  60  65  60  61  64  60  60  61  60  61  60  60  66  66
 66  60  63  67  70  77  79  75  83  81  72  66  60  62  61  60
 60  65  67  63  61  63  60  60  63  60  62  64  60  62  65  61
 60  61  60  60  60  64  65  65  60  62  63  63  65  61  60  60
 60  66  62  63  61  69  64  60  63  67  61  65  64  62  60  60
 62  60  66  64  63  60  69  65  63  61  60  60  60  64  72  73
 73  71  62  60  60  60  62  60  60  60  61  62  63  61  60  71
 74  72  60  60  70  60  60  60  63  63  63  64  62  63  61  60
 60  60  61  68  67  62  62  63  66  67  63  61  64  61  63  63
 64  63  61  71  60  60  60  63  61  70  60  60  60  60  60  60
 60  64  60  60  60  60  60  67  60  62  60  62  60  67  64  64
 66  61  67  79  60  61  62  60  60  60  60  60  60  60  60  60
#EOF


ENTER LOG DATE (MO/DY/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9-07
 ENTER JOB CODE (3 CHARS) : LAT



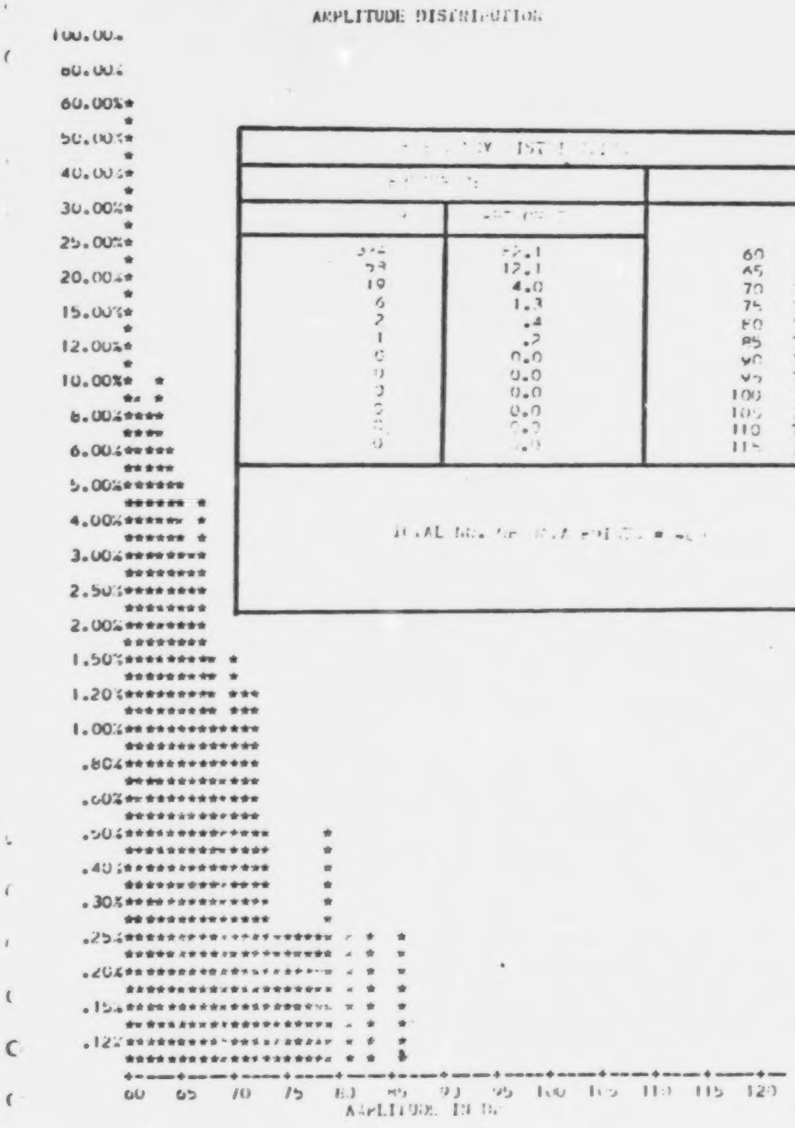
   DATA LOGGED : 3 JULY 1979             DATA ANALYZED : 28 AUG 1979
        LOGGER : DP-301/26                   SITE CODE : ASSLA
 SERIAL NUMBER : 1216                         JOB CODE : LAT
      BASELINE : 60 DB                       USER CODE : 9-07
 DYNAMIC RANGE : 64 DB                       THRESHOLD : 60 DB
 SAMPLING RATE : 4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   5: 6:46

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING
 [illegible] = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = [illegible] DB
   NUMBER OF COMPUTATIONS = 4.0
 PERIOD = 1 HOURS

 TIME           LOSHA                      DOSE
 HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1       62.5      62.5            .276      .2[illegible]
   2       61.9      62.2            .255      .53
   3       61.[illegible]      62.1            .251      .7[illegible]
   4       65.4      63.4            .471     1.26
   5       60.6      62.9            .212     1.47
   6       6[illegible].2      63.3            .52[illegible]     2.0[illegible]
   7       6[illegible]      6[illegible].0            .37[illegible]     2.37
   8       63.7      63.5            .3[illegible]4     2.7[illegible]
 MIN. [illegible] =  60 [illegible]              MAX. [illegible] = [illegible]
 ARITHMETIC MEAN =  62 [illegible]
 [illegible]
 [illegible]
```

⑰



FREQUENCY DISTRIBUTION		
[illegible]		[illegible]
#	PERCENT	
394	82.1	60 TO 64
58	12.1	65 TO 69
19	4.0	70 TO 74
6	1.3	75 TO 79
2	.4	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

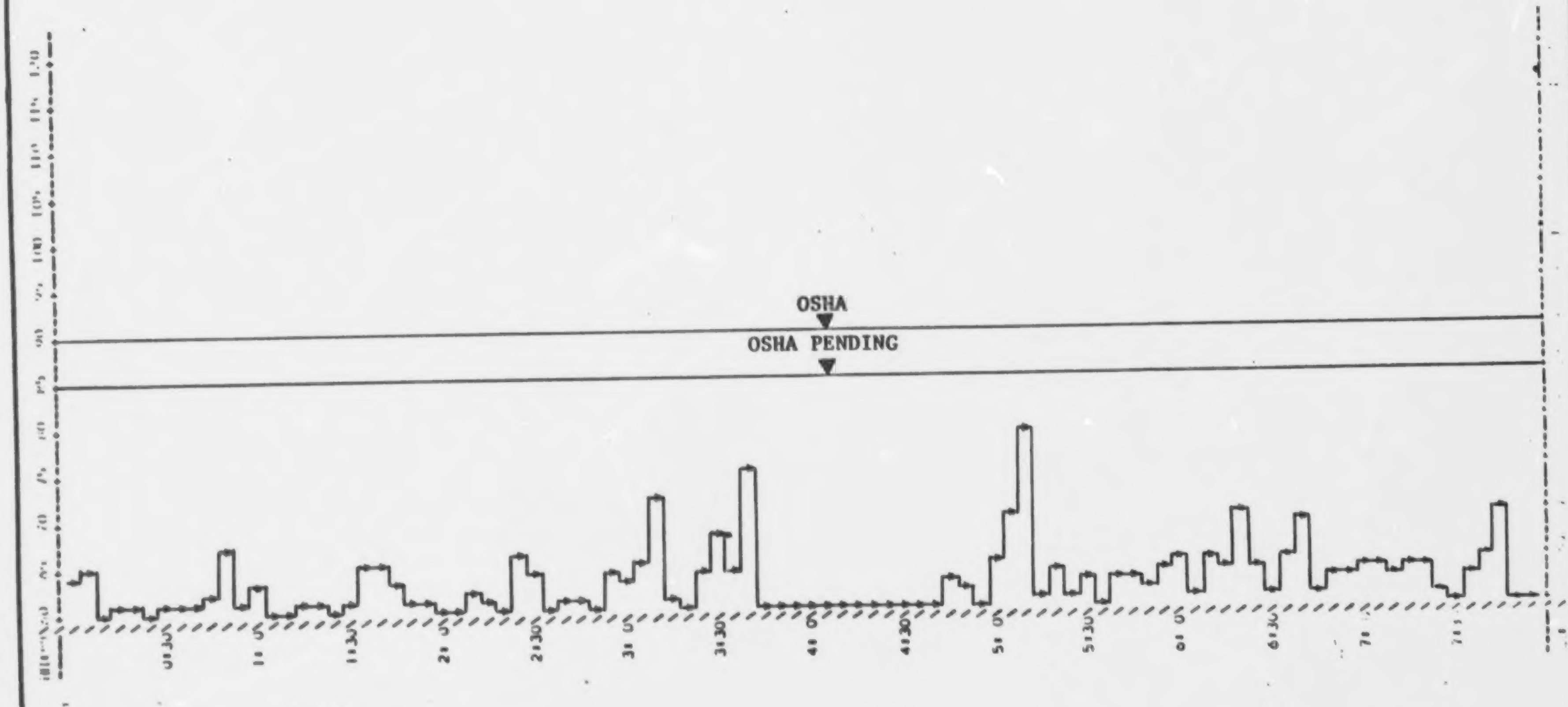
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑰

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



Lab. Tech. ⑱

```
PLACE FACE IS RESPONSE LINE TYPE A <SPACE> FOR A <RETURN>
  1  26  30  1221   60   64     4     1
   76143     1159.0  479
   69  30  90  61  61  60  63  64  60  67  64  76  57  47  66  67
   90  89  90  69  69  [illegible]  [illegible]  79  71  65  62  60  56  65  72  69
   64  65  72  65  60  65  70  66  64  75  67  64  54  59  75  60
   65  60  68  62  65  70  66  72  64  60  60  60  60  63  63  61
   67  65  63  60  60  60  60  60  60  53  62  63  60  60  60  60
   60  60  60  60  60  60  60  61  63  60  30  60  60  30  63  60
   60  60  60  60  60  61  60  64  68  59  64  63  56  64  51  60
   60  60  64  51  61  76  71  70  63  62  60  60  60  63  60  60
   60  60  60  63  62  60  60  56  50  60  60  66  61  50  60  66
   60  60  63  60  60  60  67  68  59  65  63  61  60  61  63  60
   60  65  72  76  73  62  66  60  61  62  55  63  64  63  62  51
   61  60  62  60  60  62  63  70  57  60  77  60  51  50  63  60
   67  63  64  60  70  60  60  60  50  63  60  60  60  60  60  63
   60  60  60  60  64  66  66  71  63  60  60  60  50  60  50  60
   60  60  60  60  60  60  50  63  53  65  60  60  60  60  60  60
   60  60  60  60  71  60  60  60  67  60  65  60  60  50  60  72
   74  70  64  68  60  60  60  56  60  50  50  60  60  60  60  60
   63  60  63  60  66  65  65  73  60  60  60  60  50  62  60  60
   60  60  60  60  60  64  63  67  69  55  60  60  50  63  60  60
   60  60  60  62  60  63  62  62  76  61  72  79  78  76  60  60
   60  61  63  60  60  66  60  60  63  50  60  60  60  60  61  60
   60  60  60  60  60  50  60  60  63  63  60  60  65  62  67  74
   79  67  60  61  62  62  60  60  73  64  67  63  60  62  60  69
   72  60  64  67  65  60  60  67  61  70  63  60  64  61  61  60
   60  73  67  71  65  60  60  60  67  63  60  60  50  60  60  60
   60  60  60  60  60  60  60  56  60  60  60  60  60  60  60  60
   60  66  60  60  62  66  69  63  59  65  63  68  47  75  62  66
   64  60  60  65  66  62  60  64  60  60  60  60  74  56  61  67
   60  60  64  63  66  50  60  60  63  60  50  62  55  60  64  66
   64  72  61  60  60  60  60  60  63  50  63  60  60  60  69  60
%EOF



ENTER LOG DATE (MO/DY/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : XASLA

ENTER USER CODE (4 CHARS) : 9733
 ENTER JOB CODE (3 CHARS) : LAT



   DATA LOGGED : 3 JULY 1979              DATA ANALYZED : 26  AUG 1979
       LOGGER : DB-301/26                      SITE CODE : XASLA
SERIAL NUMBER : 1221                            JOB CODE : LAT
     BASELINE : 70 DB                          USER CODE : 9733
DYNAMIC RANGE : 64 DB                          THRESHOLD : [illegible]
SAMPLING RATE : 4/SEC                     TOTAL SAMPLES =  114[illegible]
TEST DURATION =    7:59: 0                 STANDBY TIME =   5:25:35

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
[illegible]
[illegible]
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 70 DB
 NUMBER OF COMPUTATIONS = 479
PERIOD = 1 [illegible]

TIME            LOSHA                       NEI
HOUR     CURRENT  CUMULATIVE          CURRENT   CUMULATIV
  1        77.7       77.7             2.976      2.9[illegible]
  2        6[illegible]       7[illegible].3              .29[illegible]      3.27
  3        63.3       7[illegible].0              .31[illegible]      3.5[illegible]
  4        63.3       71.6              .35[illegible]      3.[illegible]
  5        63.6       7[illegible]              .319      4.20
  6        [illegible]       [illegible]              .4[illegible]      4.6[illegible]
  7        [illegible]3.[illegible]       [illegible]              .3[illegible]      5.01
  8        66.0       [illegible]              .441      5.40
[illegible] = 60 DB                    MAX. [illegible] = 91 DB
[illegible]
[illegible]
VARIANCE = [illegible] DB
```

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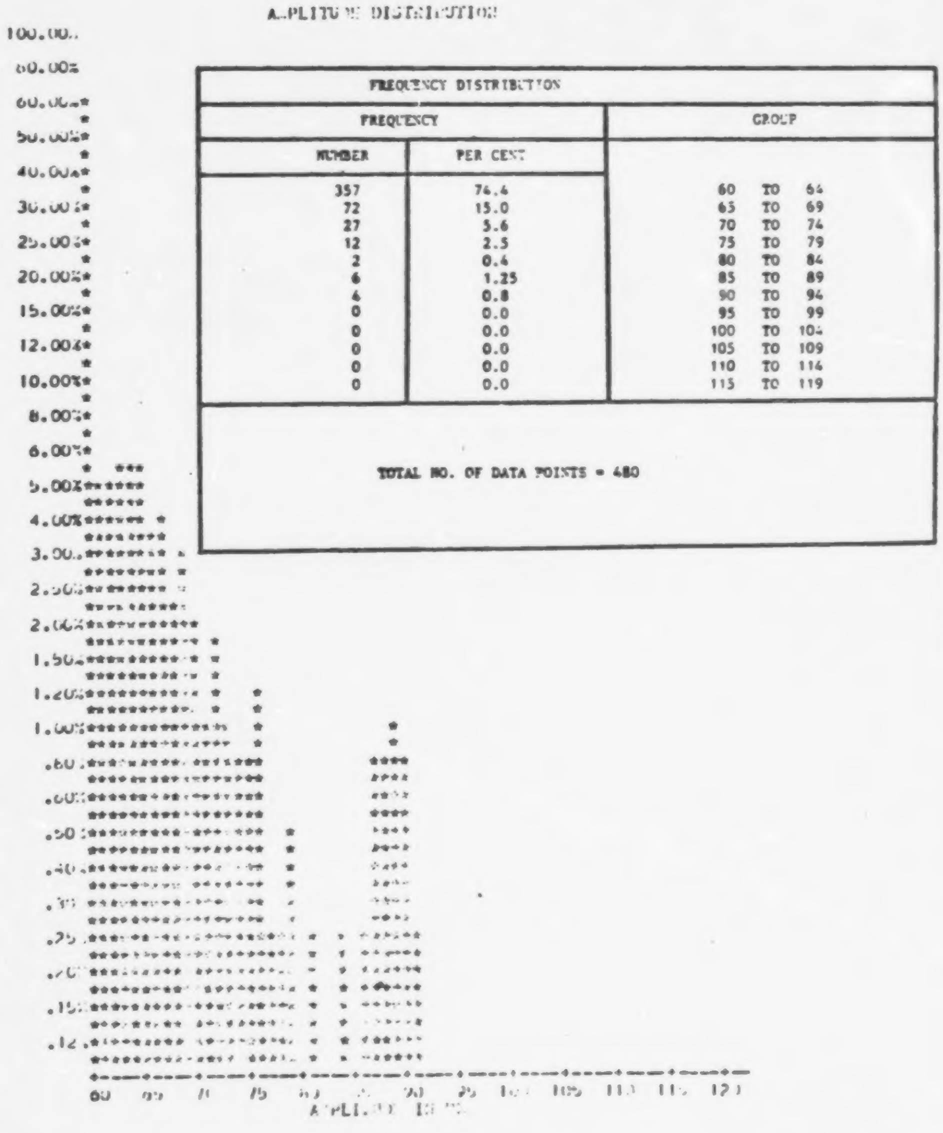
AMPLITUDE DISTRIBUTION

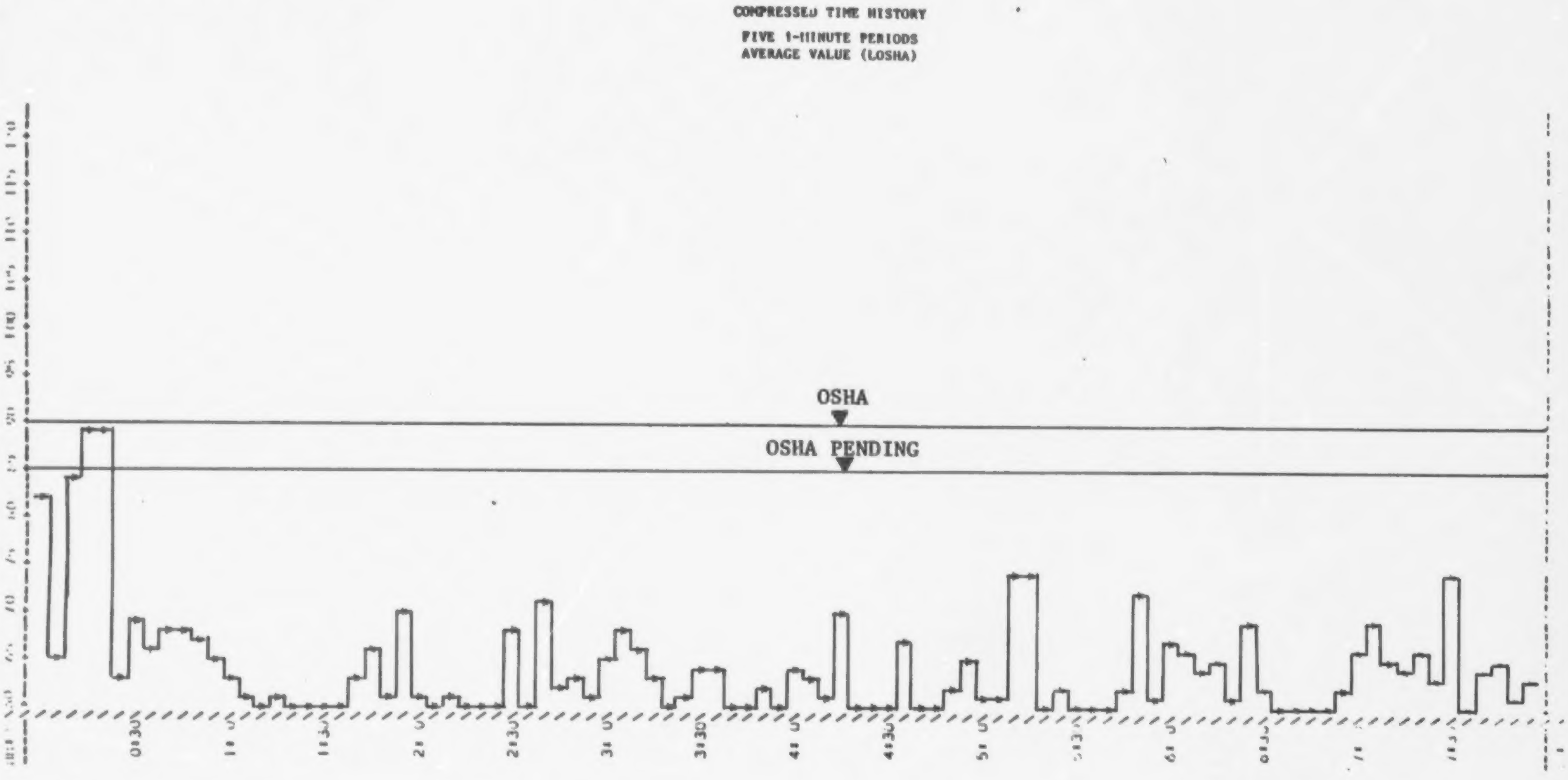


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
357	74.4	60 TO 64
72	15.0	65 TO 69
27	5.6	70 TO 74
12	2.5	75 TO 79
2	0.4	80 TO 84
6	1.25	85 TO 89
4	0.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 479


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0
7:30

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Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "IN FUCH"
   1  20  85  1212   60   64    4    1
    1208     115200  480
  74  74  60  81  70  60  66  62  60  60  60  60  63  60  60  60
  60  60  60  60  69  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  71  60
  60  60  69  79  60  60  60 -60  60  60  60  60  60  60  60  60
  60  70  69  68  69  64  60  60  64  63  72  76  72  67  75  60
  60  60  60  76  60  60  60  60  60  60  60  60  60  72  62  66
  73  69  67  73  75  71  64  66  66  60  60  65  60  60  61  63
  67  64  63  66  76  60  60  74  67  60  60  60  60  60  60  60
  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  65  69  60  60  60  60  60  60  60  66  60  66  60  62  64
  60  60  60  62  72  75  75  74  60  60  60  60  60  77  60  60
  61  60  60  66  60  60  60  60  60  60  63  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  63  68  60  67  60  67  60  60  60  60  60  60  60  63  65  60
  80  72  60  60  60  60  68  77  66  61  60  62  74  62  63  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  67  64  60  63  60  60  60  60  60  60  62  60  60  60  60
  60  63  75  60  60  60  60  60  62  60  60  60  60  62  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60 .75  63  66  74  60  60  60  60
  60  69  61  61  60  60  60  60  60  60  61  60  60  60  60  60
  70  60  67  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  70  60  60  65  60  60  63  60  60  60  60  60  60  60  60
  60  60  60  65  61  60  60  60  61  68  63  64  63  60  60  63
  60  60  60  61  60  60  77  66  76  65  61  62  60  60  60  60
  60  60  60  60  60  62  60  60  60  60  60  61  60  60  60  60
  60  60  60  60  60  69  74  60  74  60  60  65  60  60  64  63
%EOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : LABT
ENTER USER CODE (4 CHARS) : 9733
 ENTER JOB CODE (3 CHARS) : OLT


   DATA LOGGED :14 JUNE 1979            DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                  SITE CODE .: LABT
 SERIAL NUMBER : 1212                         JOB CODE : OLT
      BASELINE : 60 DB                       USER CODE : 9733
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   0:30: 2

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =   1 MINUTES

 TIME           LOGMA                      DOSE
 HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
    1       64.8       64.8            .377        .38
    2       67.1       66.0            .520        .90
    3       61.1       64.7            .226       1.12
    4       63.9       64.5        [illegible]    1.46
    5       64.4       64.5        [illegible] [illegible]
    6    [illegible]   64.2        [illegible] [illegible]
    7       60.7       63.8            .214       2.30
    8       63.9       63.8            .333       2.64
 MIN. COMP. =  60 DB               MAX. COMP. =  81 DB
 ARITHMETIC MEAN =  61 DB
 STD. DEVIATION =   4 DB
 VARIANCE = 16 DB
```

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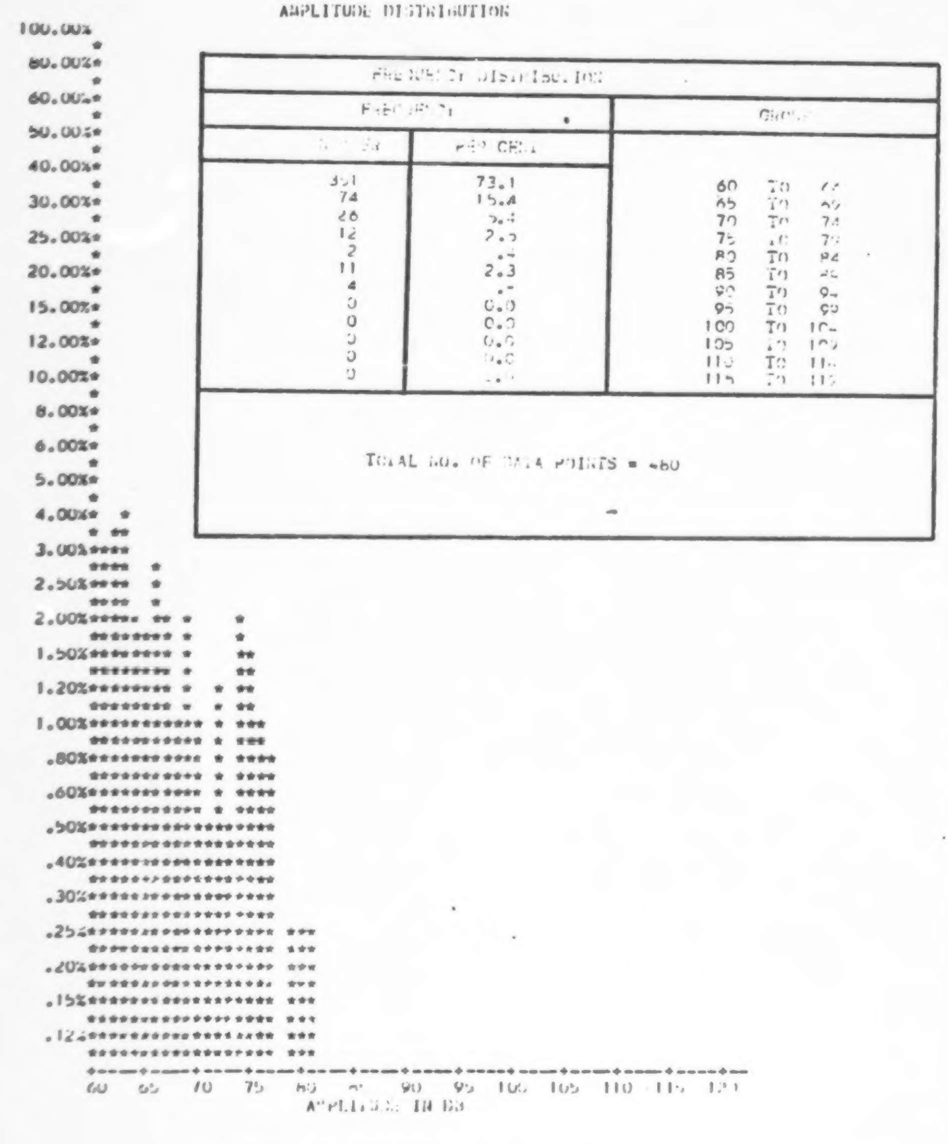
AMPLITUDE DISTRIBUTION

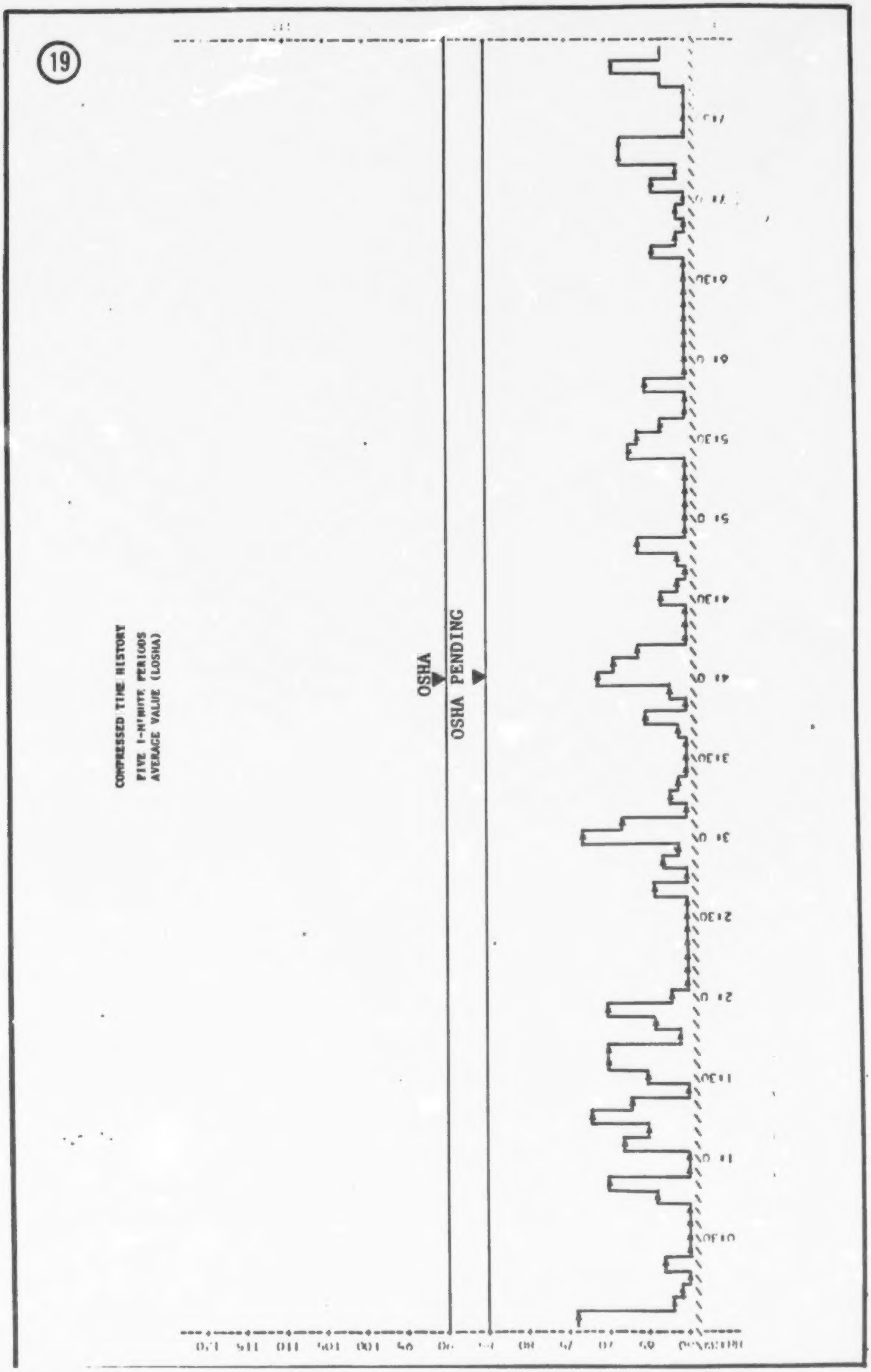


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
351	73.1	60 TO 64
74	15.4	65 TO 69
26	5.4	70 TO 74
12	2.5	75 TO 79
2	.4	80 TO 84
11	2.3	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑲


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11: 0
11:30
12: 0
12:30
13: 0
13:30
14: 0
14:30
15: 0
15:30
16: 0
16:30
17: 0

Jr. Lab. Tech. (20)

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1220   60   64    4    1
   75368     115200  480
  59  60  60  60  60  60  60  60  60  62  60  60  60  60  60  60
  60  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60
  60  61  60  60  60  60  60  60  60  60  60  66  64  61  71  64
  62  63  60  60  67  62  60  62  60  63  60  60  60  60  60  60
  60  60  61  60  60  60  61  60  60  62  60  60  60  62  60  60
  60  60  60  60  60  60  60  60  63  60  60  60  60  60  70  62
  60  60  60  60  60  60  60  60  60  60  64  61  61  61  66  62
  61  60  61  69  60  64  60  60  60  63  60  61  67  64  62  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  65  80  60  60  60  60  60  61  60  60  60
  60  60  60  60  60  60  60  60  60  60  70  60  63  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  63  60  60  60  60
  60  60  61  60  60  60  63  60  63  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  66  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  62  62  60  60  60  60  60  60  60  60  60. 61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  62  61  60  60  60  60  60  71
  65  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  65  65  64  66  61  66  60  60  60  60  62  61  61  62
%EOF


ENTER LOG DATE (DD/MM/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 9881
 ENTER JOB CODE (3 CHARS) : JLT



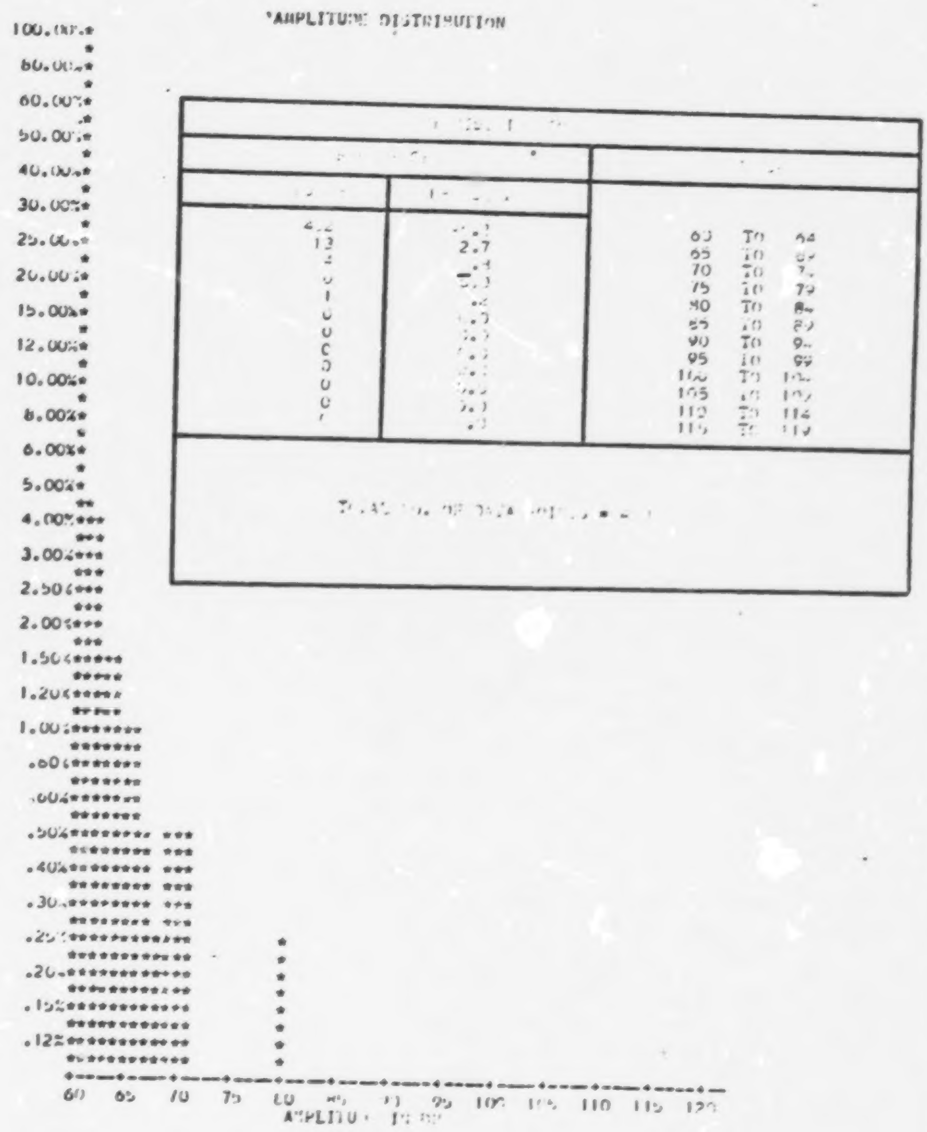
    DATA LOGGED : 3 JULY 1979            DATA ANALYZED : 28  AUG 1979
         LOGGER : JB-301/26                  SITE CODE : ASSLA
  SERIAL NUMBER : 1220                        JOB CODE : JLT
       BASELINE : 60 DB                      USER CODE : 9881
  DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0               STANDBY TIME =   5:14: 7

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD = 1 MINUTES


TIME          LOG.IA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
  1      61.5       61.5            .241       .24
  2      61.2       61.4            .239       .47
  3      62.0       61.6            .259       .7[illegible]
  4      60.5       61.3            .211       [illegible]
  5      60.2       61.1            .201      1.1[illegible]
  6      60.1       61.0            .194      1.[illegible]
  7      [illegible]       [illegible]            .212      1.[illegible]
  8      [illegible]       [illegible]            .21[illegible]      1.[illegible]
[illegible]                        [illegible]
[illegible]
[illegible]
[illegible]
```

⑳

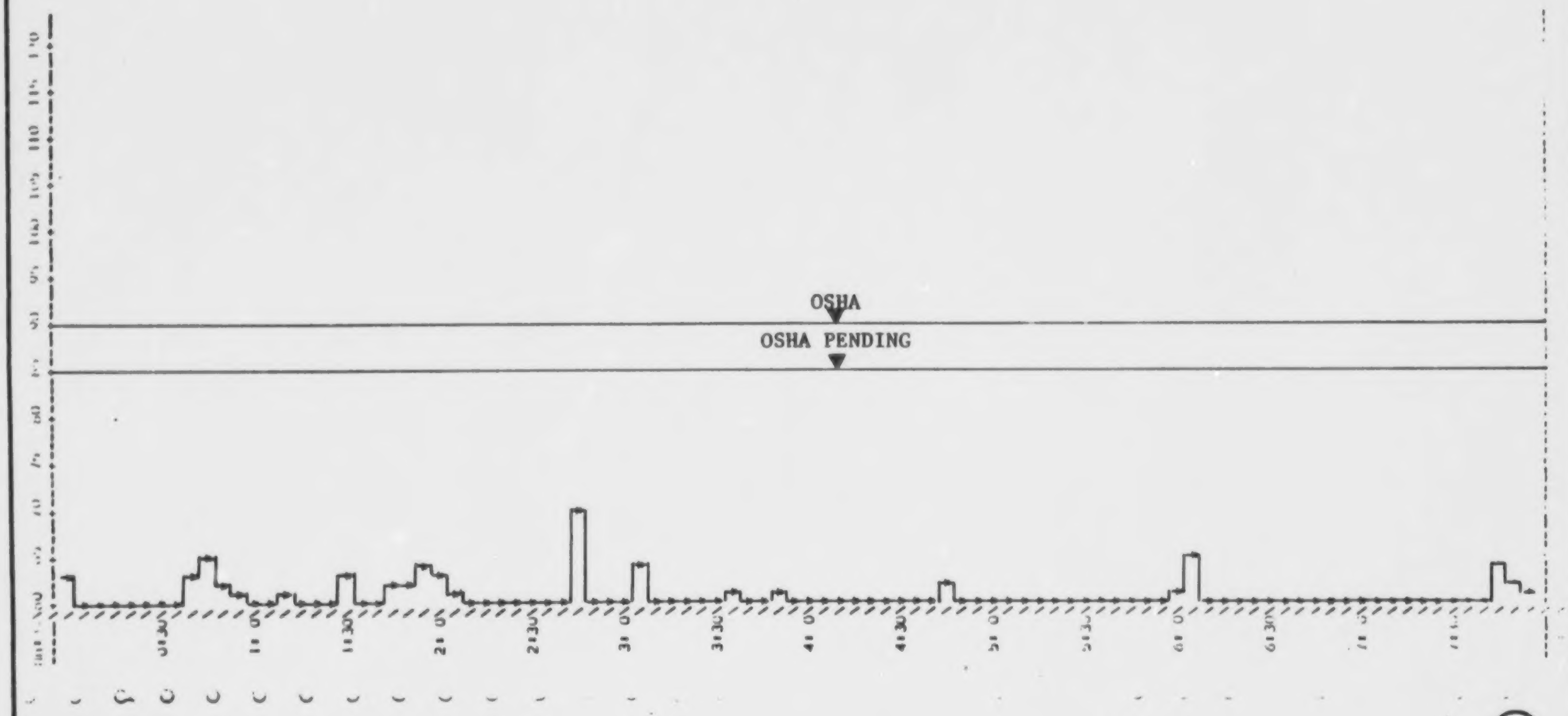


[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	60 TO 64
13	2.7	65 TO 69
2	.4	70 TO 74
0	0.0	75 TO 79
1	.2	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = [illegible]

Number of computations = 480

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Jr. Lab. Tech.

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
 1  26  85  1222   60   64    4    1
   9132    115200  480
 75  60  60  77  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  63  60  60  60  60  60  60  65  60  60  60  60  60  63
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  74  63
 60  60  60  60  60  60  60  61  60  60  60  60  60  60  60  60
 61  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  65  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  67  60  60  60  60  60  60  60  65  60
 69  60  60  60  60  60  62  67  60  62  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  68  60  60  60  76  73  60  71
 60  60  70  66  62  67  64  64  60  60  60  65  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 76  79  60  60  60  60  60  61  62  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  80  60  60  60  60  60  60  71  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 14/06/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9861
 ENTER JOB CODE (3 CHARS) : OLT



   DATA LOGGED :14 JUNE 1979            DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : ASSLA
 SERIAL NUMBER : 1222                          JOB CODE : OLT
      BASELINE : 60 DB                        USER CODE : 9861
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  85 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                 STANDBY TIME =   0:38: 3

          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 85 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                        DOSE
 HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1       61.8       61.8            .249        .25
   2       61.2       61.5            .230        .48
   3       60.1       61.0            .197        .68
   4       60.3       60.9            .204        .88
   5       60.8       60.9            .217       1.10
   6       62.8       61.2            .2[illegible]       1.30
   7       62.2       61.4            .2[illegible]       1.6[illegible]
   8       62.0       61.4            .257       1.91
 MIN. COMP. =  60 DB               MAX. COMP. =  80 DB
 ARITHMETIC MEAN =  60 DB
 STD. DEVIATION =   2 DB
 VARIANCE  =  4 DB
```

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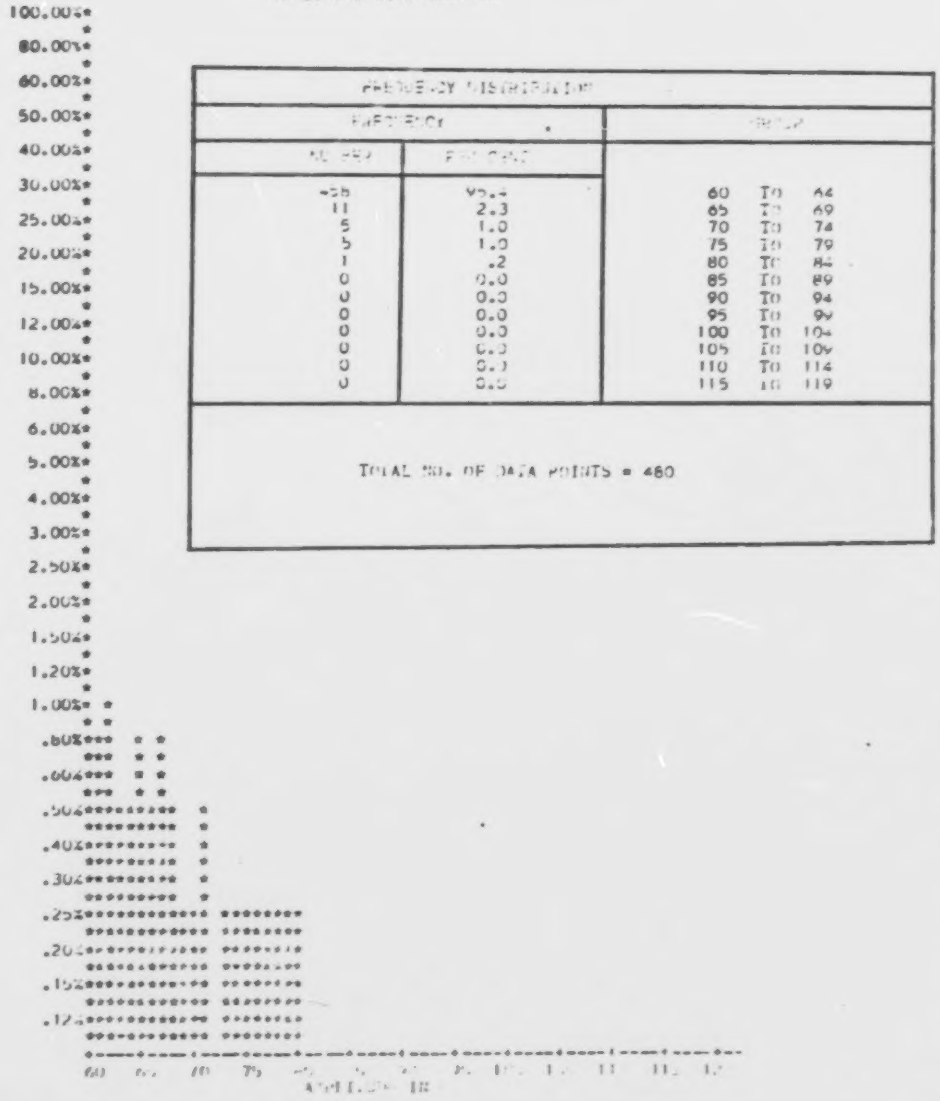
AMPLITUDE DISTRIBUTION

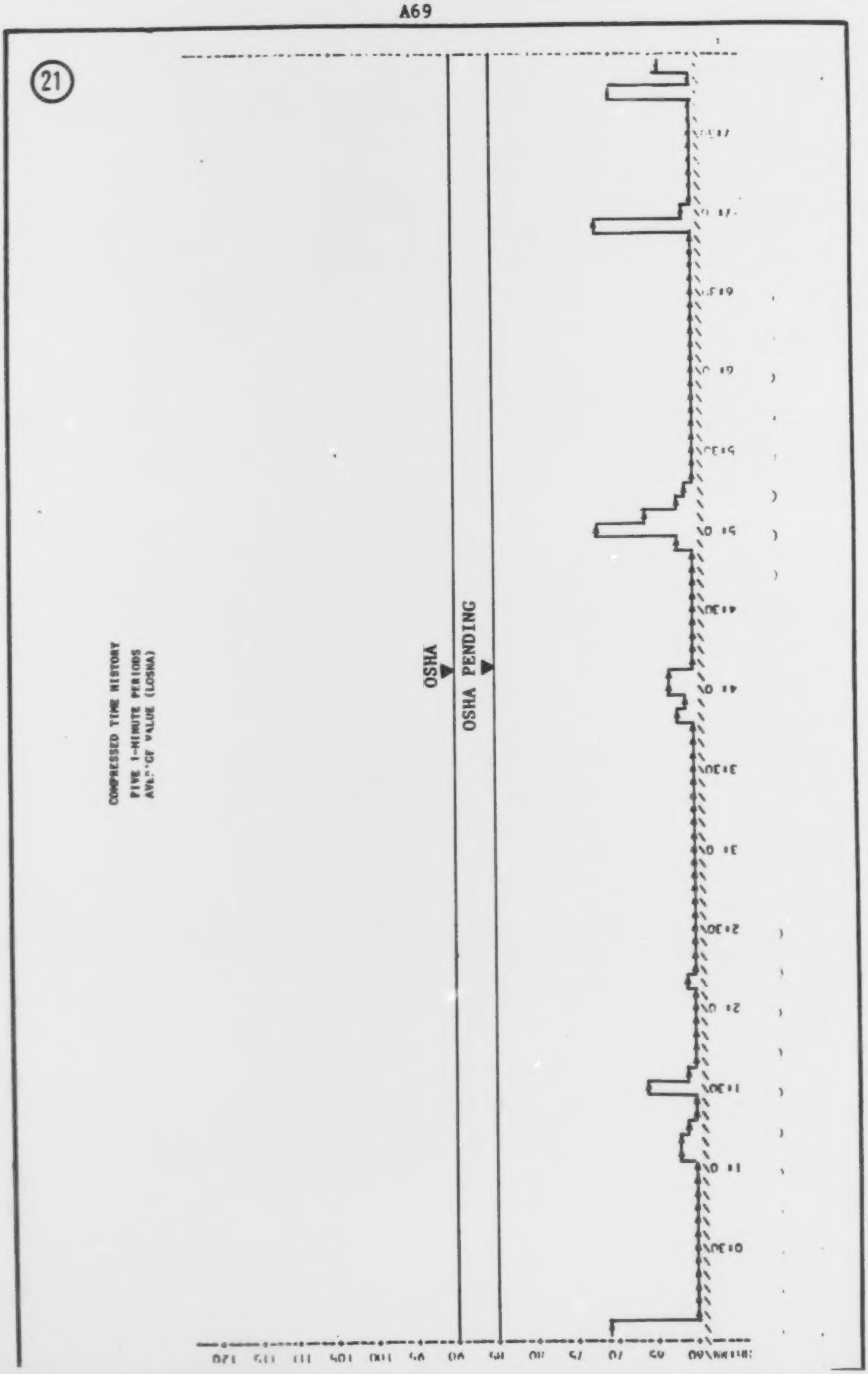


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PERCENT	
458	95.4	60 TO 64
11	2.3	65 TO 69
5	1.0	70 TO 74
5	1.0	75 TO 79
1	.2	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

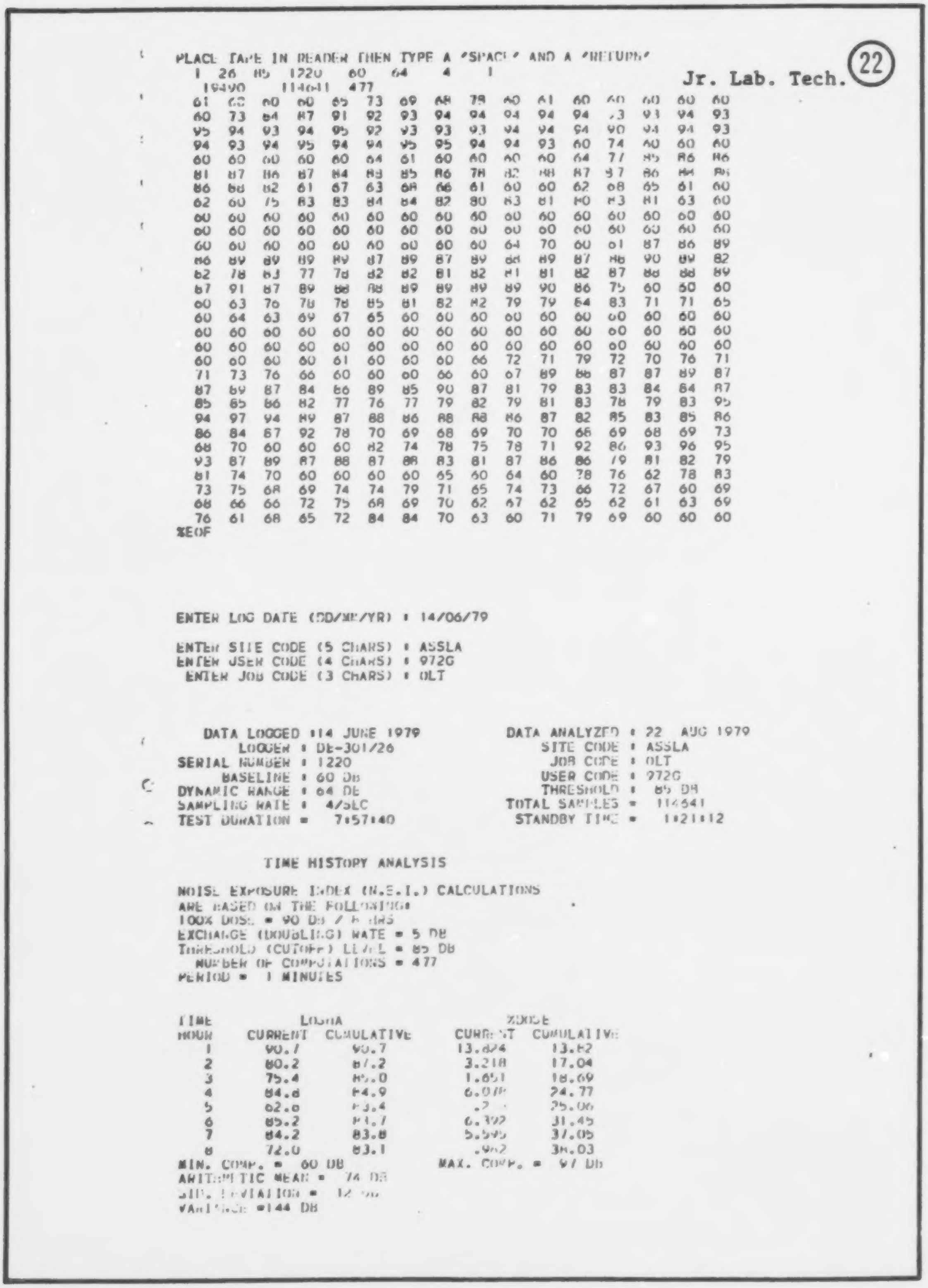
TOTAL NO. OF DATA POINTS = 480

Number of computations - 480

A69



(21)
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30



Jr. Lab. Tech. ㉒

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  85  1220   60   64    4     1
  19490     114641  477
  61  62  60  60  65  73  69  68  79  60  61  60  60  60  60  60
  60  73  64  87  91  92  93  94  94  94  94  94  93  93  94  93
  95  94  93  94  95  92  93  93  93  94  94  94  90  94  94  93
  94  93  94  95  94  94  95  95  94  94  93  60  74  60  60  60
  60  60  60  60  60  64  61  60  60  60  60  64  77  85  86  86
  81  87  86  87  84  83  85  86  78  82  88  87  87  86  88  86
  86  68  62  61  67  63  68  66  61  60  60  62  68  65  61  60
  62  60  75  83  83  84  84  82  80  83  81  80  83  81  63  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  64  70  60  61  87  86  89
  86  89  89  89  89  87  89  87  89  88  89  87  86  90  89  82
  62  78  63  77  78  82  82  81  82  81  81  82  87  88  88  89
  67  91  87  89  88  88  89  89  89  89  90  86  75  60  60  60
  60  63  76  78  78  85  81  82  82  79  79  64  83  71  71  65
  60  64  63  69  67  65  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  61  60  60  60  66  72  71  79  72  70  76  71
  71  73  76  66  60  60  60  66  60  67  89  86  87  87  89  87
  87  69  87  84  66  89  85  90  87  81  79  83  83  84  64  87
  85  65  66  82  77  76  77  79  82  79  81  83  78  79  83  95
  94  97  94  89  87  88  86  88  88  86  87  82  85  83  85  86
  86  84  67  92  78  70  69  68  69  70  70  66  69  68  69  73
  68  70  60  60  60  82  74  78  75  78  71  92  86  93  96  95
  93  87  89  87  88  87  88  83  81  87  86  86  79  81  82  79
  81  74  70  60  60  60  60  65  60  64  60  78  76  62  78  83
  73  75  68  69  74  74  79  71  65  74  73  66  72  67  60  69
  68  66  66  72  75  68  69  70  62  67  62  65  62  61  63  69
  76  61  68  65  72  84  84  70  63  60  71  79  69  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 14/06/79

ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 972G
 ENTER JOB CODE (3 CHARS) : OLT


   DATA LOGGED :14 JUNE 1979              DATA ANALYZED : 22  AUG 1979
       LOGGER : DE-301/26                     SITE CODE : ASSLA
SERIAL NUMBER : 1220                           JOB CODE : OLT
     BASELINE : 60 DB                         USER CODE : 972G
DYNAMIC RANGE : 64 DB                         THRESHOLD :  85 DB
SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  114641
TEST DURATION =   7:57:40                  STANDBY TIME =   1:21:12

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 85 DB
  NUMBER OF COMPUTATIONS = 477
PERIOD =  1 MINUTES


TIME           LOGHA                     %DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1       90.7       90.7          13.824     13.82
   2       80.2       87.2           3.218     17.04
   3       75.4       85.0           1.651     18.69
   4       84.8       84.9           6.078     24.77
   5       62.0       83.4            .2[illegible]    25.06
   6       85.2       83.7           6.392     31.45
   7       84.2       83.8           5.595     37.05
   8       72.0       83.1            .982     38.03
MIN. COMP. =  60 DB               MAX. COMP. =  97 DB
ARITHMETIC MEAN =  74 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

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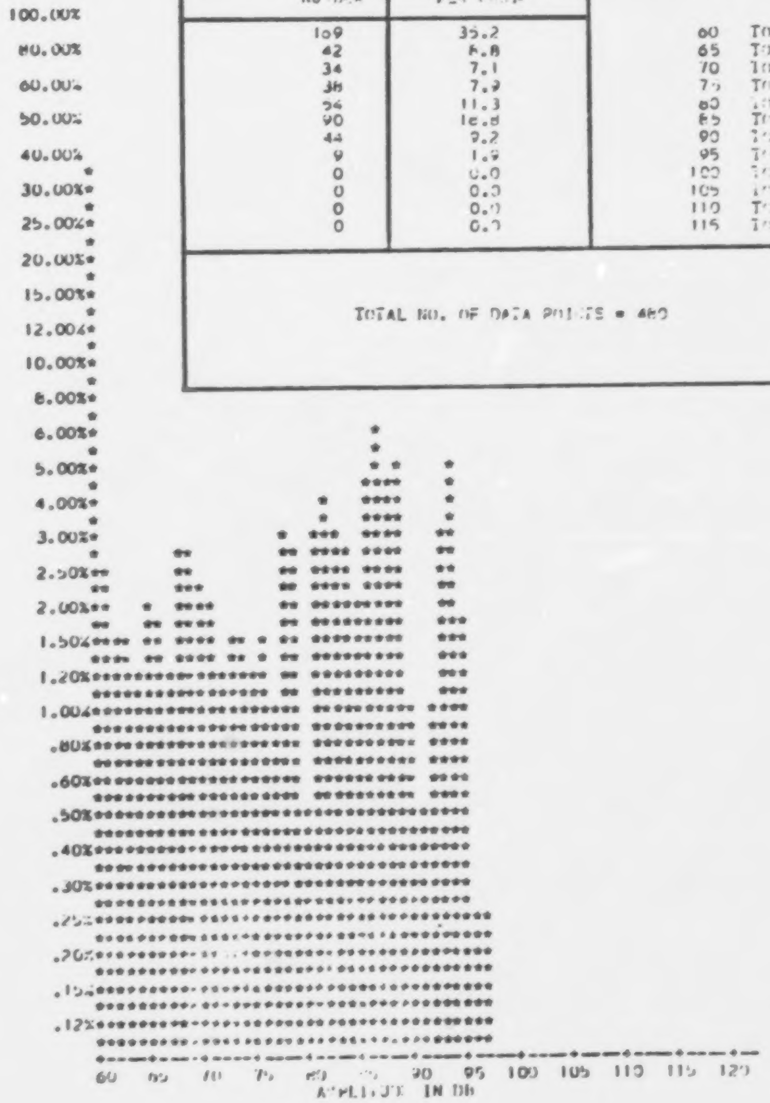
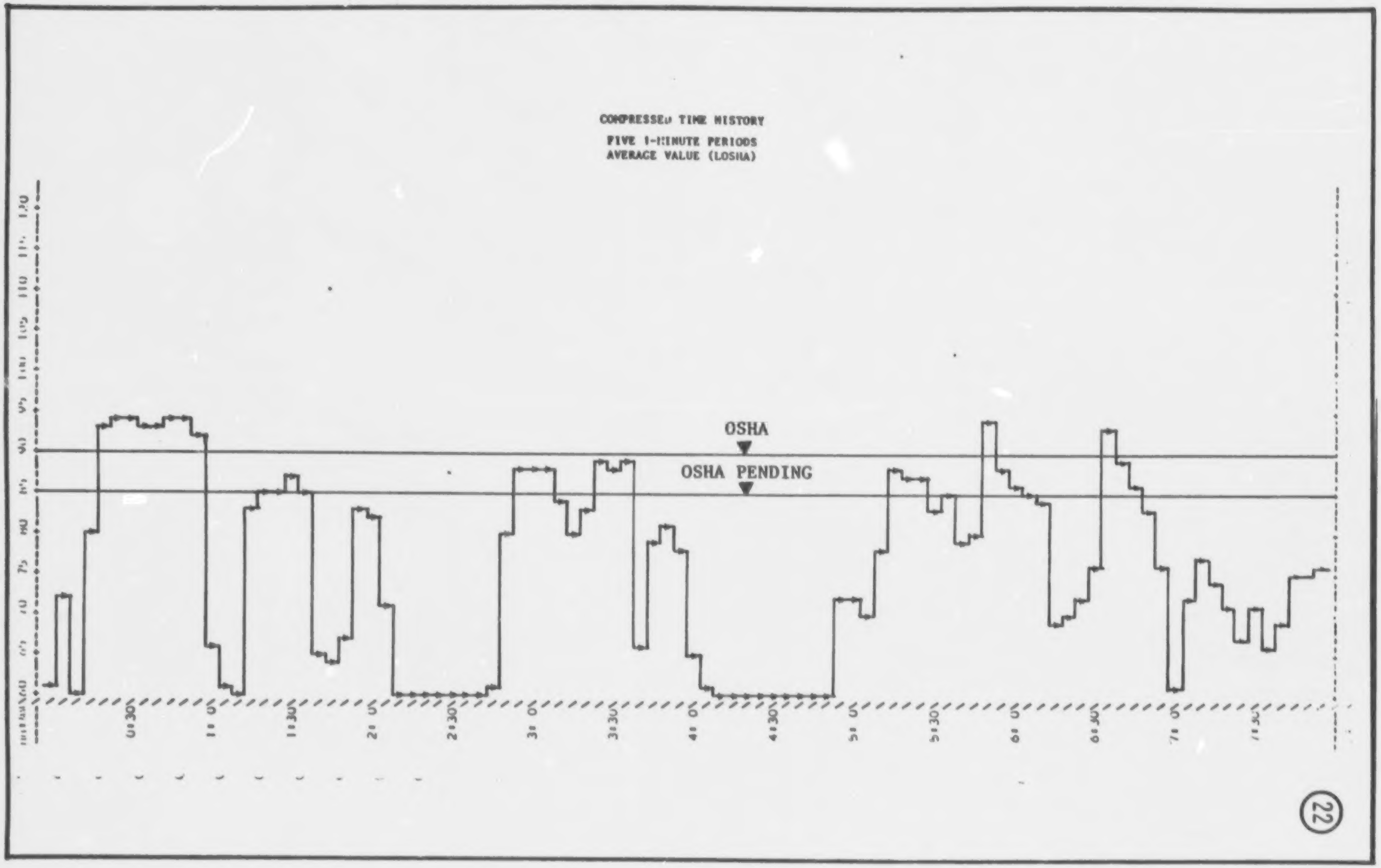
Amplitude Distribution

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
169	35.2	60 TO 64
42	8.8	65 TO 69
34	7.1	70 TO 74
38	7.9	75 TO 79
54	11.3	80 TO 84
90	18.8	85 TO 89
44	9.2	90 TO 94
9	1.9	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 477


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0
7:30
22

23

Labour Trainee

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]
  1  26  00  1225   60   64    4    1
   71059     115200  480
  76  61  62  60  60  64  60  60  61  62  60  61  60  61  61  64
  60  60  60  60  60  60  60  60  61  62  60  60  60  60  60  60
  60  60  64  65  61  60  60  61  60  60  60  60  61  61  61  60
  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60  60
  60  61  60  60  63  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  65  60  61  62  60  60  60  60  63  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  61  60  60  63  60  61  60  60  60  60
  75  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  62  60  60  60  60  60  60  60  60  60
  64  61  60  60  62  65  63  60  60  52  62  65  62  64  60  66
  64  62  61  63  61  64  61  64  60  60  60  62  62  61  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  63  60
  60  60  60  60  60  60  60  61  60  60  60  61  60  65  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  61  60  63  60
  60  63  64  62  60  60  65  60  60  60  60  61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
&EOF



ENTER LOG DATE (MO/DT/YR) : 07/03/79
ENTER SITE CODE (5 CHARS) : ASSLA
ENTER USER CODE (4 CHARS) : 9728

 ENTER JOB CODE (3 CHARS) : LTR



     DATA LOGGED : 3 JULY 1979              DATA ANALYZED  : 2[illegible] AUG 1979
         LOGGER : [illegible]-301/26              SITE CODE  : ASSLA
  SERIAL NUMBER : 1225                          JOB CODE  : L[illegible]
       BASELINE : 60 DB                        USER CODE  : 972[illegible]
  DYNAMIC RANGE : 64 DB                        THRESHOLD  : [illegible]
  SAMPLING RATE : 4/SEC                    TOTAL SAMPLES  = 115200
  TEST DURATION =    8 [illegible]                 START TIME  =   [illegible]34


            TIME HISTORY ANALYSIS

  NOISE EXPOSURE I [illegible] CALCULATIONS
  AND [illegible]
  100% [illegible] = 90 [illegible]
  EXCHANGE [illegible] = 5 [illegible]
  THRESHOLD [illegible] = [illegible]
  [illegible]
  PERIOD = 1 HOURS


  TIME          LOSHA                      [illegible]
  HOUR     CURRENT   CUMULATIVE      CURRENT   CUMULATIVE
     1       61.9       61.9          .25[illegible]        .25
     2       60.3       61.1          .2[illegible]        .46
     3       [illegible]       [illegible]          .19[illegible]        .6[illegible]
     4       60.7       [illegible]          .22[illegible]        .8[illegible]
     5       [illegible]       [illegible]          .1[illegible]        1.0[illegible]
     6       61.2       [illegible]          .23[illegible]        1.30
     7       60.5       60.7          .209        1.51
     8       [illegible]       [illegible]          .2[illegible]        1.71
  [illegible] =  [illegible]                [illegible] =  [illegible]
  [illegible]
  [illegible] = 1
  [illegible] = 1
```

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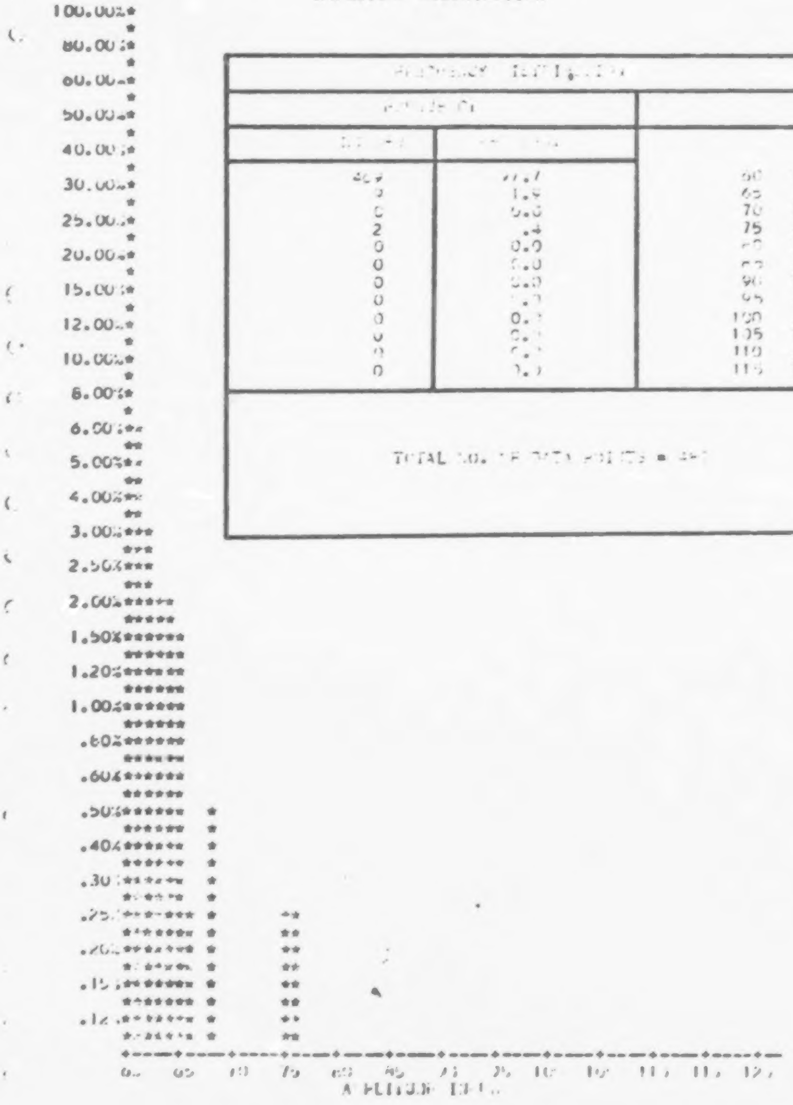
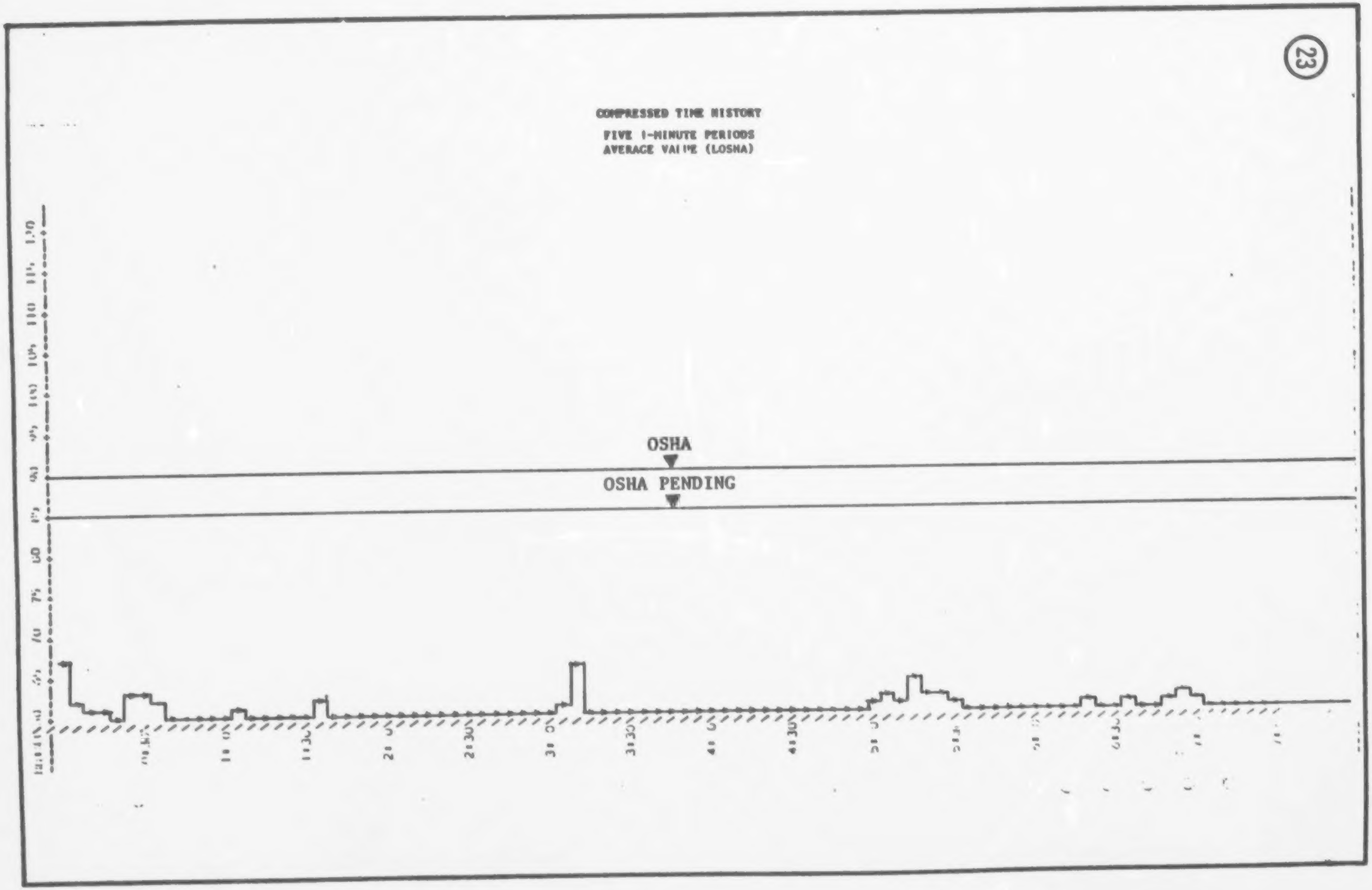
AMPLITUDE DISTRIBUTION

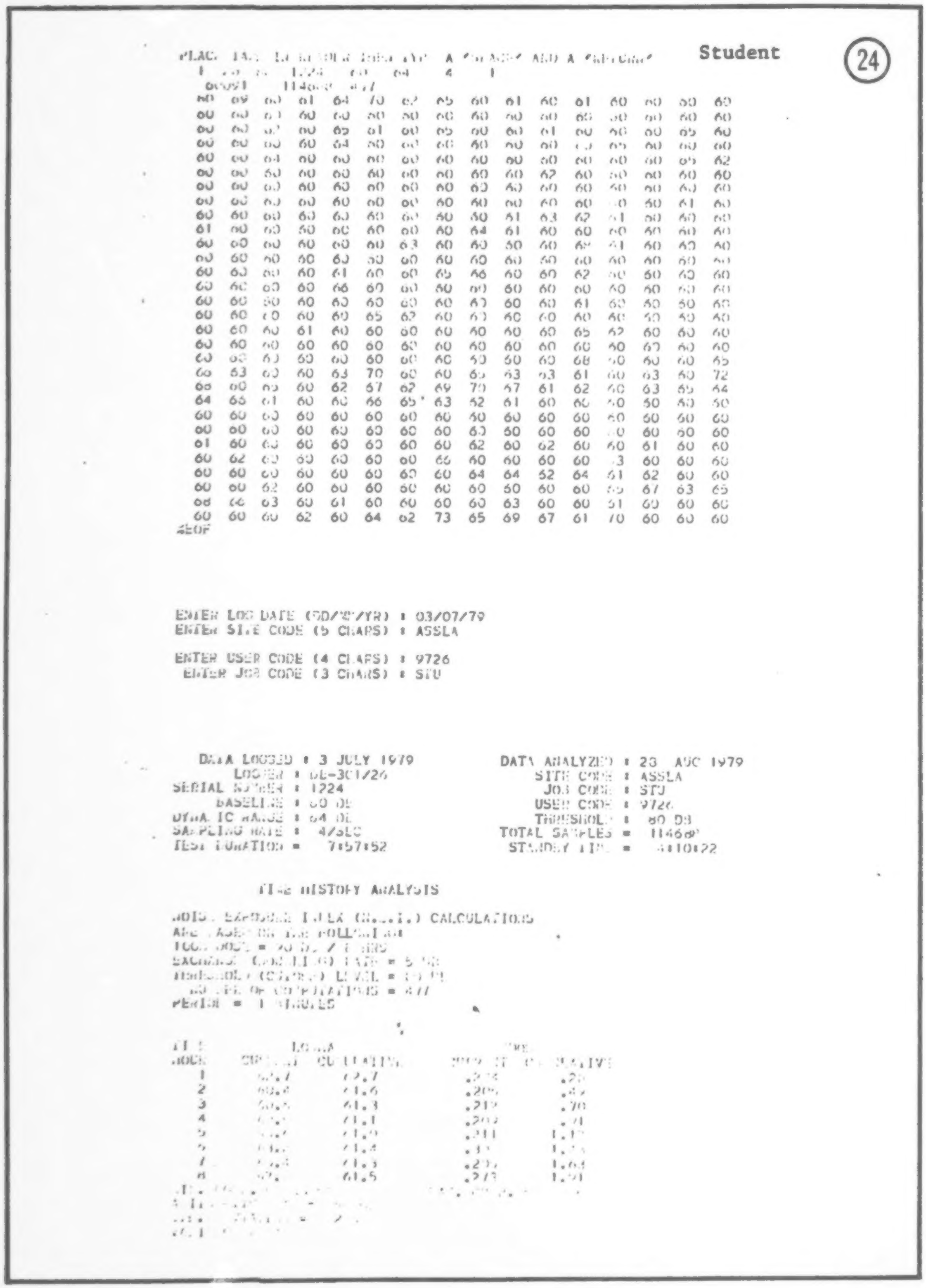


FREQUENCY DISTRIBUTION		
[illegible]		[illegible]
[illegible]	[illegible]	
469	97.7	60 TO 64
9	1.9	65 TO 69
0	0.0	70 TO 74
2	.4	75 TO 79
0	0.0	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


23
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00



Student ㉔

```
PLACE TAPE IN READER [illegible] A "READY" AND A "RETURN"
  1 [illegible]  1224   60   64    4    1
   00091     11468?  477
 60  69  60  61  64  70  62  65  60  61  60  61  60  60  60  60
 60  60  61  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  65  61  60  65  60  60  61  60  60  60  65  60
 60  60  60  60  64  60  60  60  60  60  60  60  65  60  60  60
 60  60  64  60  60  60  60  60  60  60  60  60  60  60  65  62
 60  60  60  60  60  60  60  60  60  60  62  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  61  60
 60  60  60  60  60  60  60  60  60  61  63  62  61  60  60  60
 61  60  60  60  60  60  60  60  64  61  60  60  60  60  60  60
 60  60  60  60  60  60  63  60  60  60  60  62  61  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  61  60  60  65  66  60  60  62  60  60  60  60
 60  60  60  60  66  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  61  60  60  60  60
 60  60  60  60  60  65  62  60  60  60  60  60  60  60  60  60
 60  60  60  61  60  60  60  60  60  60  60  65  62  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  67  60  60
 60  60  60  60  60  60  60  60  60  60  60  68  60  60  60  65
 60  63  60  60  63  70  60  60  60  63  63  61  60  63  60  72
 60  60  60  60  62  67  62  69  70  67  61  62  60  63  65  64
 64  65  61  60  60  66  65  63  62  61  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  63  60  60  60  60  60  60  60
 61  60  60  60  60  60  60  60  62  60  62  60  60  61  60  60
 60  62  60  60  60  60  60  66  60  60  60  60  63  60  60  60
 60  60  60  60  60  60  60  60  64  64  62  64  61  62  60  60
 60  60  62  60  60  60  60  60  60  60  60  60  65  67  63  65
 60  66  63  60  61  60  60  60  60  63  60  60  61  60  60  60
 60  60  60  62  60  64  62  73  65  69  67  61  70  60  60  60
*EOF


ENTER LOG DATE (DD/MM/YR) : 03/07/79
ENTER SITE CODE (5 CHARS) : ASSLA

ENTER USER CODE (4 CHARS) : 9726
 ENTER JOB CODE (3 CHARS) : STU



   DATA LOGGED : 3 JULY 1979            DATA ANALYZED : 23  AUG 1979
        LOGGER : DL-301/26                  SITE CODE : ASSLA
 SERIAL NUMBER : 1224                        JOB CODE : STU
      BASELINE : 60 DB                      USER CODE : 9726
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  11468?
 TEST DURATION =   7:57:52               STANDBY TIME =  [illegible]:10:22

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 477
PERIOD = 1 MINUTES

TIME           LOSHA                    N.E.I.
HOUR     SPECIFIC   CUMULATIVE      SPECIFIC   CUMULATIVE
   1     [illegible].7       62.7           .2[illegible]       .2[illegible]
   2     60.[illegible]       61.6           .20[illegible]       .4[illegible]
   3     [illegible]       61.3           .21[illegible]       .70
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   8     [illegible]       61.5           .27[illegible]       1.[illegible]
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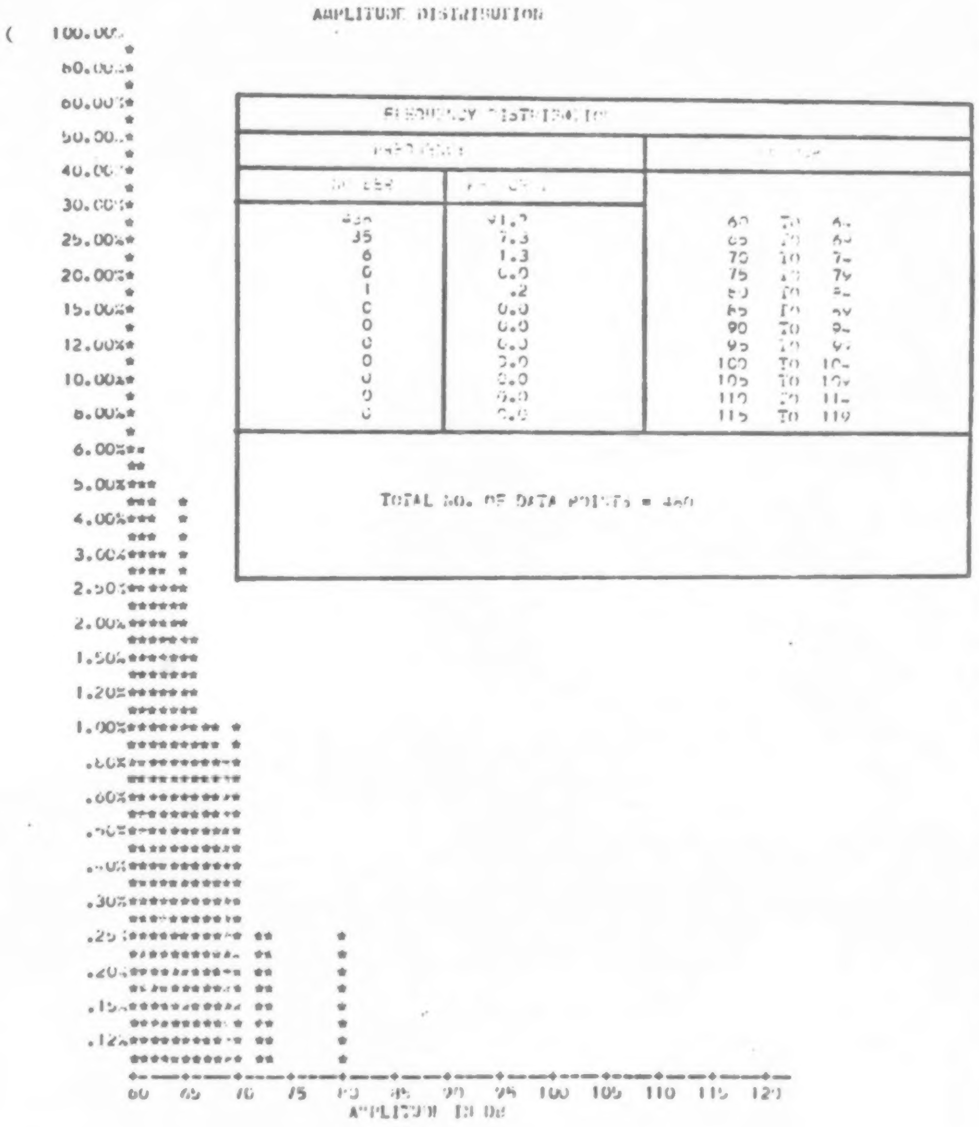
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION

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35	7.3	65 TO 69
6	1.3	70 TO 74
0	0.0	75 TO 79
1	.2	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
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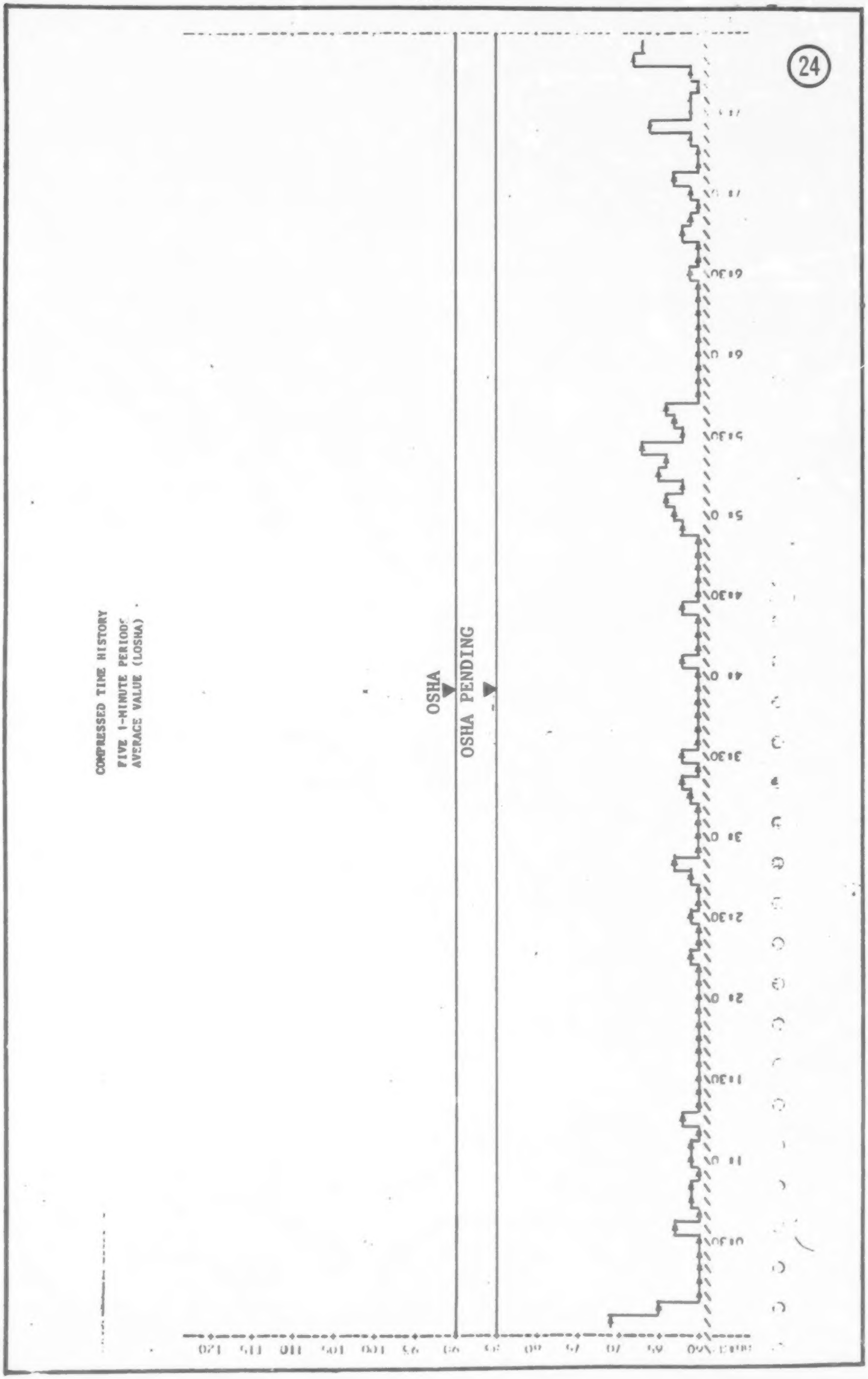
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 477


24
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11: 0
11:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30

page 571

VOL. 4 B Report 6

81-95 M.U. Savich

Noise measurement in the hydrometallurgical plant at Denison Mines Ltd. in Elliot Lake

1982

MESURE DU BRUIT DANS L'USINE HYDROMÉTALLURGIQUE DE LA DENISON MINES LTD. À ELLIOT LAKE

M.U. Savich*

RÉSUMÉ

L'usine hydrométallurgique, étant donné sa taille, peut être comparée à un petit établissement dans lequel les sources de bruit sont différentes. Des travaux de construction étaient effectués dans l'usine hydrométallurgique au moment où on a effectué les mesures.

On a effectué des mesures du niveau de bande d'octave, du niveau de pression acoustique, du niveau de pression acoustique de crête (max.) et du niveau acoustique équivalent de différentes machines. On a aussi enregistré de façon continue, au moyen de dosimètres de bruits personnels à profil, l'exposition au bruit de 98 travailleurs appartenant à plusieurs catégories et âgés de 21 à 65 ans.

Les mesures ont montré que le bruit ne dépasse pas 90 dBA, sauf dans la salle des compresseurs (92 dBA).

Le matériel de protection personnel est adéquat pour la sécurité des travailleurs partout dans l'usine hydrométallurgique.

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*Chercheur scientifique, Laboratoire d'Elliot Lake, Laboratoires de recherche minière, Centre canadien de la technologie des minéraux et de l'énergie, Énergie, Mines et Ressources Canada, Elliot Lake (Ontario).

NOISE MEASUREMENT IN THE HYDROMETALLURGICAL PLANT AT DENISON MINES LTD. IN ELLIOT LAKE

by

M.U. Savich*

ABSTRACT

The hydrometallurgical plant, due to its size, can be compared to a small settlement in which the sources of noise are different. Construction work was being done in the hydrometallurgical plant during the time of the measurements.

Noise measurements of the octave band level, sound pressure level, peak (max) sound pressure level and equivalent sound level of different machines were performed. Also the noise exposure of 98 individuals, ranging in age from 21 to 65 years, and representing seven occupational groups, was continuously monitored using personal profiling noise dosimeters.

The measurements have shown that noise does not exceed 90 dBA except in the compressor room (92 dBA).

Personal protection equipment is adequate for the safety of workers at all locations in the hydrometallurgical plant.

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* Research Scientist, Elliot Lake Laboratory, Mining Research Laboratories, Canada Centre for Mineral and Energy Technology, Department of Energy, Mines and Resources, Elliot Lake, Ontario, Canada.

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INTRODUCTION

The hydrometallurgical plant, due to its size, can be compared to a small settlement in which the sources of noise are different. Noise measurements of the octave band level, sound pressure level, peak (max) sound pressure level and equivalent sound level of different machines were performed. Also, the noise exposure of 98 individuals, ranging in age from 21 to 65 years, and representing seven occupational groups, was continuously monitored using personal profiling noise dosimeters.

THE NOISE LEVEL IN THE PLANT

Construction work was being done in the hydrometallurgical plant during the time of the measurement (Fig. 1). Measurements taken in the plant indicate that the noise level in various sections of the plant is different, but the results obtained can be compared (Table 1).

THE NOISE CONTROL IN THE PLANT

Most industrial noise control problems can be resolved by one or more of the following:

- controlling or attenuating noise at its source;
- controlling or attenuating noise at the receiver (listener);
- controlling or attenuating noise along its path from source to listener.

Any industrial noise control problem may require that one, two or all three of these basic control elements be taken into consideration.

The following four step procedure will often yield satisfactory solutions to simple industrial noise control problems:

1. Take octave band noise level readings. These will reveal which frequencies are most objectionable from the standpoint of the listener.

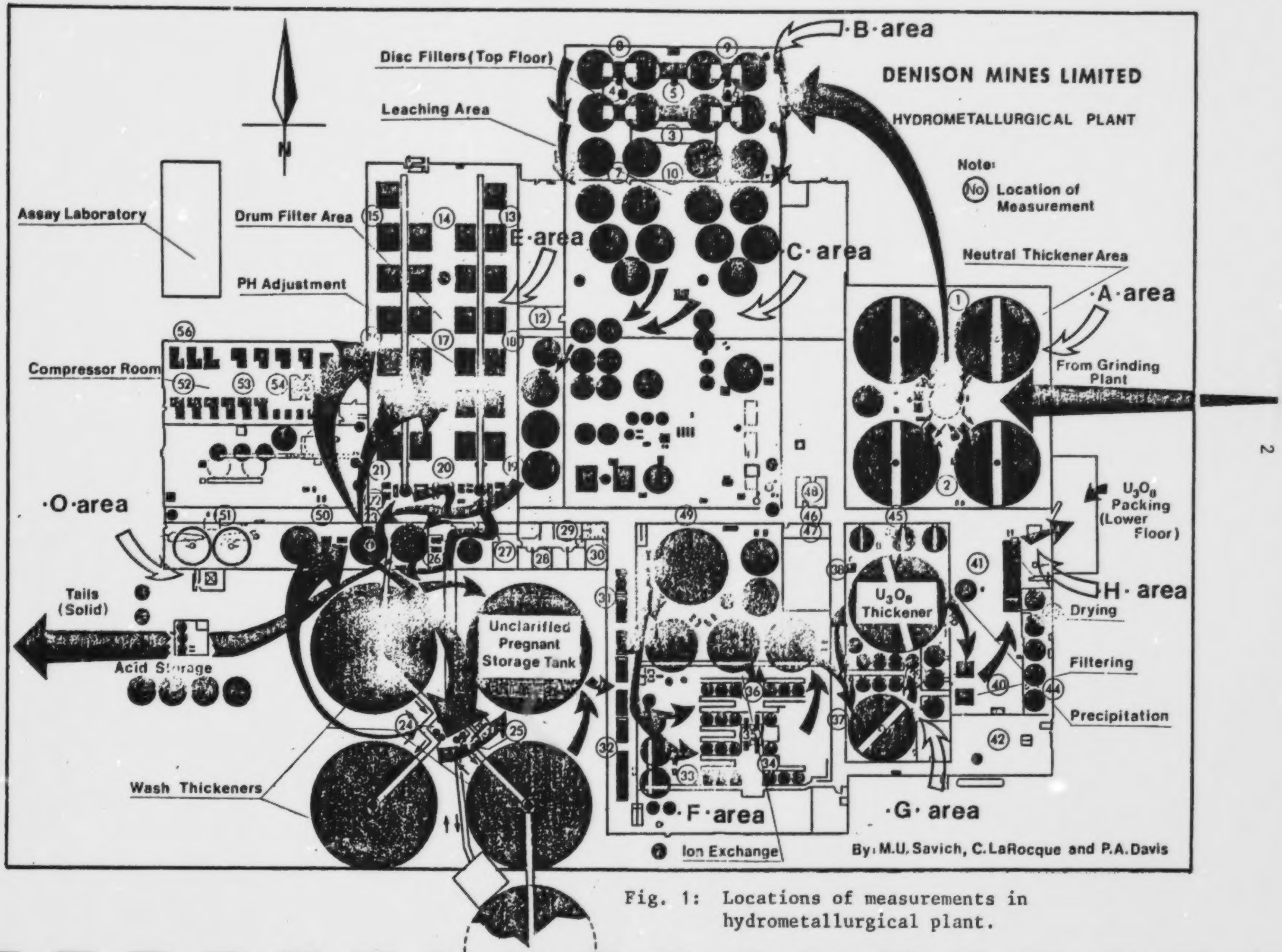

DENISON MINES LIMITED
HYDROMETALLURGICAL PLANT
Note: (No) Location of Measurement
·A·area
·B·area
·C·area
E·area
·F·area
·G·area
H·area
·O·area
Neutral Thickener Area
From Grinding Plant
Disc Filters (Top Floor)
Leaching Area
Assay Laboratory
Drum Filter Area
PH Adjustment
Compressor Room
Tails (Solid)
Acid Storage
Wash Thickeners
Unclarified Pregnant Storage Tank
Ion Exchange
U3O8 Thickener
U3O8 Packing (Lower Floor)
Drying
Filtering
Precipitation
N
By: M.U. Savich, C. LaRocque and P.A. Davis

Fig. 1: Locations of measurements in hydrometallurgical plant.

Table 1 - Results of noise measurements of the octave band noise level, sound pressure level, peak sound pressure level and equivalent sound level of different machines

Measur. No.	Machine No.	Site	Frequency (Hz) in dB								dBA	dBA*	dBC	dBA		
			63	125	250	500	1000	2000	4000	8000				SPL	Lmax	Leq
1		Neutral thickener												84	84	60
2		Neutral thickener												83	84	60
3		Disc filter-office	74 76.5	70 71	66.5 69.5	66.5 68	63 66	62 63	61 61	61 61	67.5 69.5	64 67	80.5 82	75	82	63
4		Disc filter area	81 83	81 84	81 82	82.5 87.5	79 82.5	74 78.5	76.5 82.5	70 70.5	85.5 92	84.5 89	89 93	90	98	92
5		Disc filter area	80 82	83 86	82 91	82 89	80 86.5	77 82	74.5 78	70 73	85 92	85 91	91 92	92	94	90
6		Disc filter area	83 79.5	80.5 84.5	80 84.5	80 87	79 86	77 79	72 73	68.5 71	83 88	84 89	89 93	86	94	88
7		Leaching area	79	78	75	72	68	65	63	61.5	73	74	86	81	88	61
8		Leaching area	80.5	80	75	78	73.5	69	65.5	66	79	67	88	81	87	68
9		Leaching area	81	81	78	76	72	68.5	67	64	77	78	89	81	84	60
10		Leaching area	79.5	79	77	76.5	71.5	68.5	66.5	63	78	78	87	83	87	69
11		Leaching area	80.5	78	75	73	68	66	64	62	74	75	86.5	82	86	65
12		Mech. planning office	69	64	62	62	61	61	61	60.5	62.5	68	74	61	73	60
13		Drum filters	82	79	78	76	74.5	73	72	72	78	80.5	88	84	89	79
14		Drum filters	83	80	78	78	75	73	72.5	72	78	81	90	81	84	60
15		Drum filters	83.5	81	80	80	76	73	72.5	72	82	75	93	79	89	68
16		Drum filters	86	83	78	78.5	75	72.5	72	72	78.5	81	90	80	92	74
17		Drum filters	82.5	81	80.5	79	75	73	72.5	72	79.5	81.5	88	81	83	61
18		Drum filters	83	81	79.5	78	75	73	72	72	79	81	88	81	85	61
19		Drum filters	84	83	83.5	90	77	74.5	73	72.5	82	82	89	82	84	61
20		Drum filters	82	82	79	78.5	76	74	72.5	72	78.5	78	88.5	81	82	60
21		Drum filters	84	83	82	81	78.5	75	73	72	83	83.5	91	82	83	60
22		Inside lunch room	78.5	75.5	73	72.5	72	72	72	72	73	77	84	70	85	61
23		Outside lunch room	82	82.5	81.5	79	76	74	73	72	80	82	90	82	85	62
24		Mach. thickener	82.5	84	85	81	78	73.5	68	63	82.5	83	90	86	88	87
25		Mach. thickener	80	83	83	80	77	72.5	68.5	64.5	82	82	88	69	89	89
26		Sampling room	58	57	56	56	55.5	55	55	53	60	62	67.5	70	86	62
27		Laboratory	58.5	57	54	53.5	53	52.5	52	52	55	59.5	67	64	76	61
28		Office	55	56	53.5	53	53	53	53	53	53.5	60	60.5	64	82	60

* Note: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

Cont. overleaf

Table 1 continued

Measur. No.	Machine No.	Site	Frequency (Hz) in dB								dBA	dBA*	dBC	dBA		
			63	125.	250	500	1000	2000	4000	8000				SPL	L_{max}	L_{eq}
29		Clerk's office	55	55	54	53.5	53	53	53	53	54	60	62	60	80	60
30		Lunch room	73	72.5	66	64	62.5	62	62	62	65	69	77.5	63	74	60
31		Leaf clarifiers	81.5	81	80	77	74	74.5	70	63	81	80.5	87	77	91	77
32		Leaf clarifiers	81	80	75	74	70	70	69	66	77	77.5	85	77	83	60
33	IX	Walkway	77	75	74	71	68	66.5	63.5	63	73.5	74.5	82	78	83	60
34		Ion exchange	77	75	75	71.5	69	67	64.5	62.5	72.5	75	82	75	80	61
35		Ion exchange	69	68	66	67.5	65	63	63	62.5	67	71	79	63	79	60
36		Ion exchange												76	80	60
37		Ion exchange												80	87	70
38		Walkway												88	91	88
39		Workers' station												90	91	88
40		Filter area												90	91	91
41		Dryer												86	92	86
42		Mens' dry												87	90	85
43		Packing area												96	97	96
44		Packing area												97	98	98
45		Walkway												83	102	91
46		Shifters' office (out												80	83	60
47		Central control												72	78	60
48		Shifters' office (in)												67	72	60
49		Walkway												76	87	65
50		Walkway	77	73	69	69	63	59.5	56	54	69	70	79.5	81	83	61
51		Walkway	74	77	70	67	62	57.5	57	53.5	68.5	69	80	84	89	80
52		Compressor room	96.5	96	87	86	86	86	79	70.5	91.5	91	96.5	90	91	90
53		Compressor room	95	95	87	88	87	85.5	79.5	73	92	92	96.5	92	94	93
54		Compressor room	93	93	88	92	90	87	81	77	92.5	94	96.5	94	95	94
55		Operators' room	86	75	67	64	63.5	63	63	63	67	71	94	68	77	60
56		Outside compressor room	93.5	93.5	93.5	85	75.5	67	64	62.5	91.5	87.5	93.5	84	85	73

CONSTRUCTION WORK

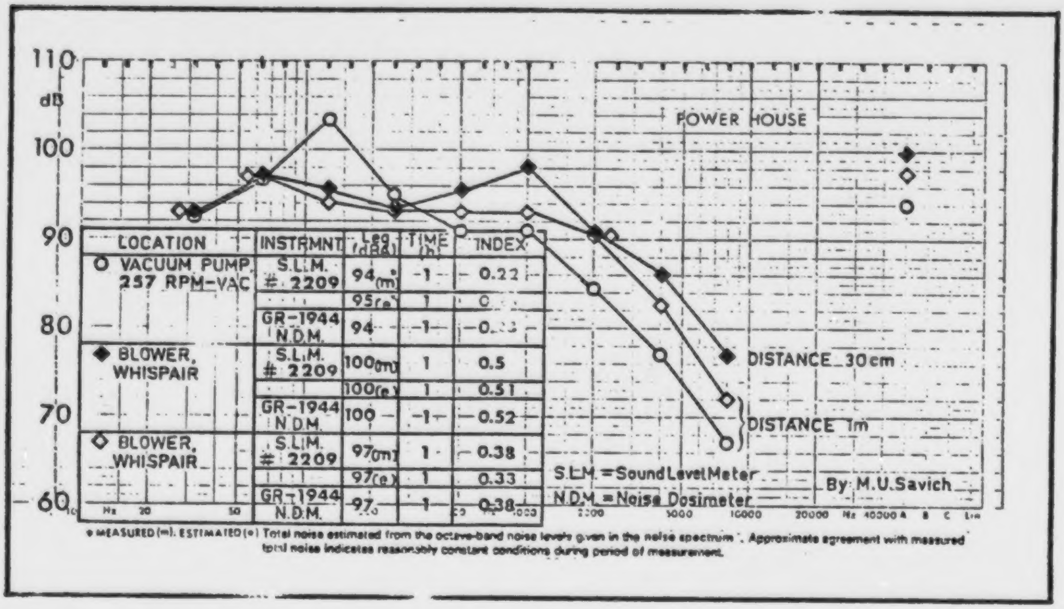
* Note: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

2. Determine the true source of noise.
3. Determine whether the noise can be controlled at its source.
4. Decide which of the three (source, path or receiver) are to be considered first for noise treatment. Factors influencing this decision will include initial cost, ease of installation, access to equipment, effect on productivity, safety, etc.

Our measurements in the hydrometallurgical plant were mainly carried out following the above mentioned procedure. The octave band analysis shows the highest noise level at low frequencies. The compressor room (power house) is the main source of low frequencies. In May 1976 the noise was measured over all frequencies of interest (Fig. 2) (1). These results were not compared with present measurements since they were taken under different circumstances (Fig. 3).

After the measurement in 1976, a complete enclosure was placed in the compressor room. The only permanent method of reducing noise at the receiver position is to build a complete enclosure around the receiver or listener. An enclosure for a listener is very similar to an enclosure for a noise source. The basic difference between the two is that an employee enclosure must provide an environment (lights, windows, ventilation, etc.). The installation enclosure was well chosen and has a high attenuation (25 dBA).

Mean values of the spectrum of disc filters, drum filters and the leaching area were compared. The disc filters in their technological process produce two levels of noise. The mean value of these was taken and, therefore, the standard deviation is high (Fig. 4). The leaching area and drum filters have characteristically, the highest noise levels at low frequencies. The source is the power house and the electrical motors. Measurement of Nos. 36 to 49 were not performed on the machines due to construction work noise interference (Table 1).



LOCATION	INSTRMNT	Leq (dBA)	TIME (h)	INDEX
○ VACUUM PUMP, 257 RPM-VAC	S.L.M. # 2209	94(m)*	1	0.22
		95(e)	1	[illegible]
	GR-1944 N.D.M.	94	1	[illegible]
◆ BLOWER, WHISPAIR	S.L.M. # 2209	100(m)	1	0.5
		100(e)	1	0.51
	GR-1944 N.D.M.	100	1	0.52
◇ BLOWER, WHISPAIR	S.L.M. # 2209	97(m)	1	0.38
		97(e)	1	0.33
	GR-1944 N.D.M.	97	1	0.38

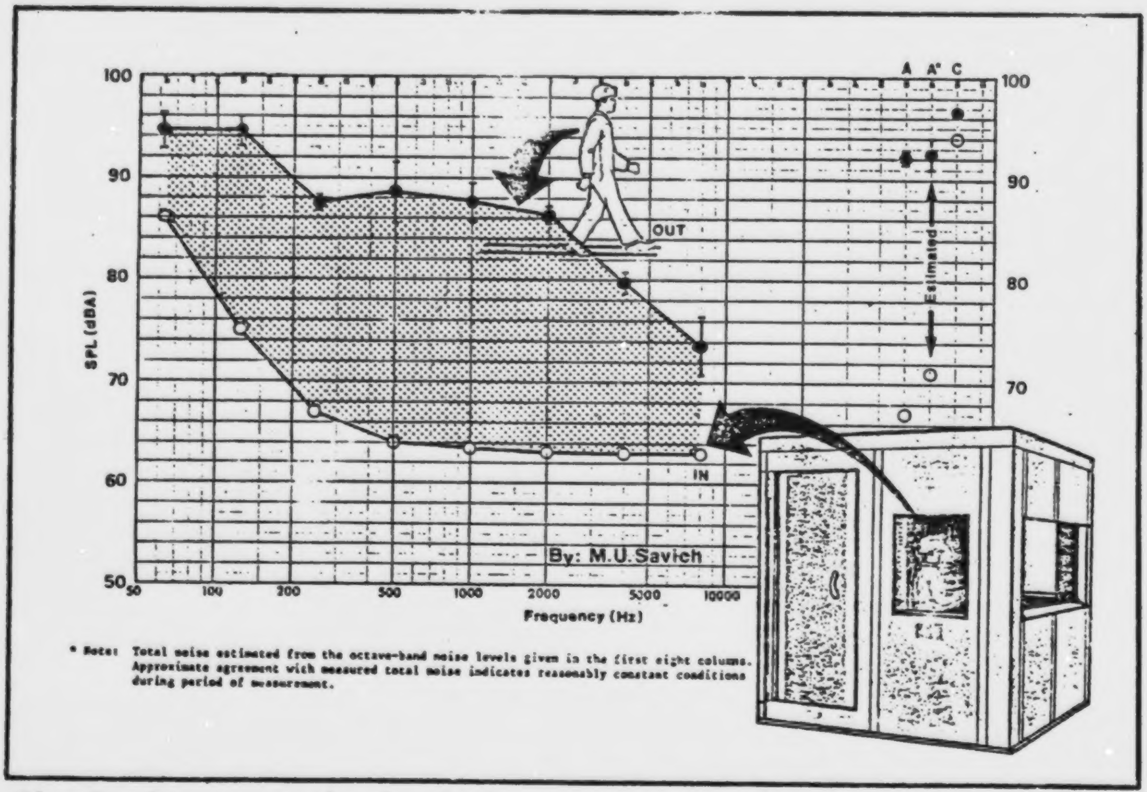
S.L.M. = Sound Level Meter

N.D.M. = Noise Dosimeter

* MEASURED (m). ESTIMATED (e) Total noise estimated from the octave-band noise levels given in the noise spectrum. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

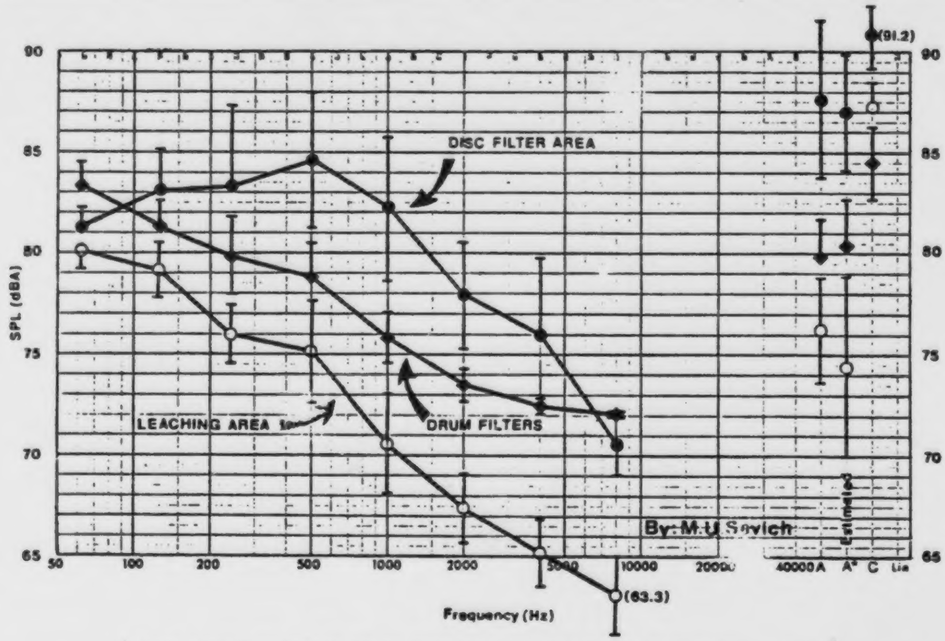
110
dB
100
90
80
70
60
POWER HOUSE
DISTANCE 30 cm
DISTANCE 1m
By: M.U.Savich
Hz 20
50
1000
2000
5000
10000
20000
Hz 40000
A
B
C
Lin

Fig. 2: Spectral analysis of vacuum pump and blower, whispair, with lower frequencies dominant (1).



* Note: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

Fig. 3: Frequency noise levels in compressor room (power house).



* note: Total noise estimated from the octave-band noise levels given in the first eight columns. Approximate agreement with measured total noise indicates reasonably constant conditions during period of measurement.

Fig. 4: Frequency noise levels of leaching area, drum filters and disc filter area.

Measurement results of the sound pressure levels and equivalent continuous sound levels in a large number of cases show that noise is steady. The sound pressure level is almost always equal to the equivalent continuous sound level (Fig. 5). In the maximum level graph between 80 dBA and 94 dBA, it is not clear why the levels are high and where they come from. The ear could not register the impacts. Also, the dBA over all frequencies is different from dBA (SPL) in a large number of cases. The measurements were taken at various time intervals by two different surveyors. Results of measurements 26 and 27 differ by 10 dBA. The reason is simple: in one case the machine was operating in the sampling room, while in the other case it was not.

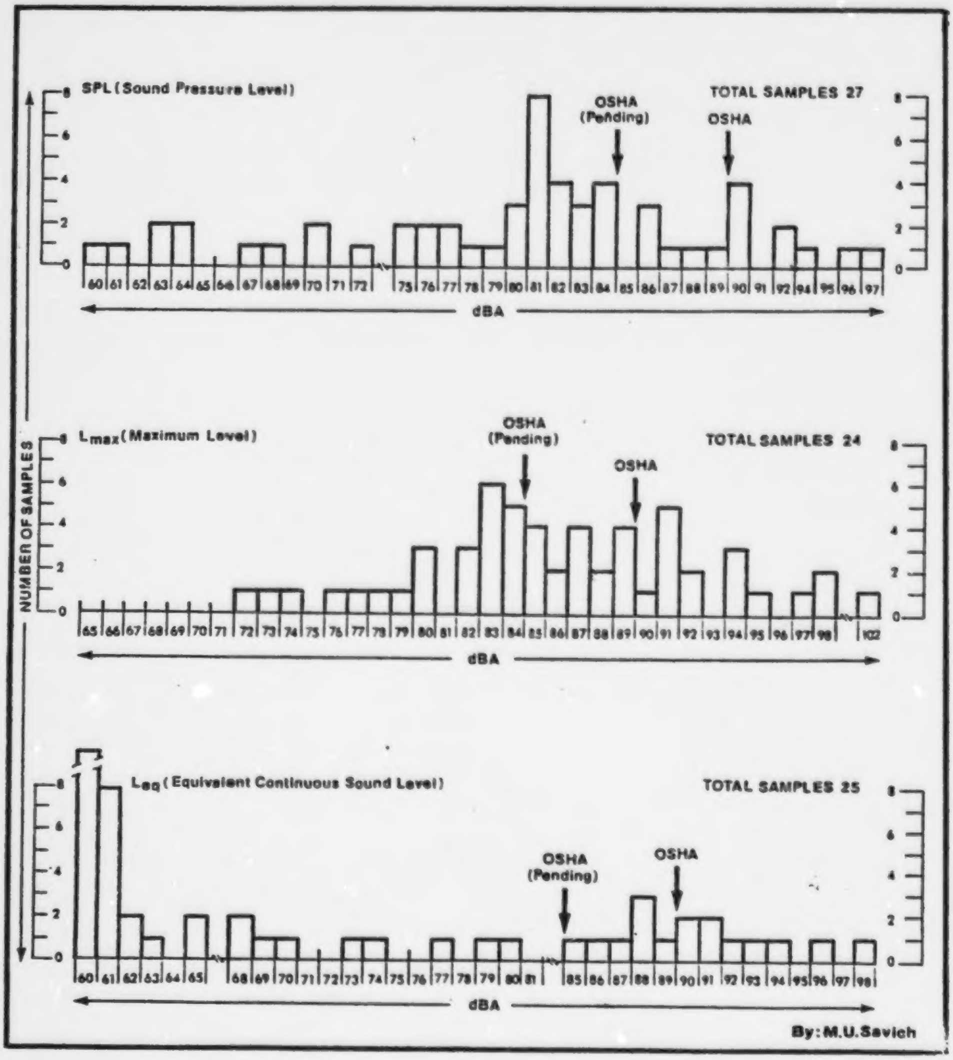


Fig. 5: Density bar graph of the sound pressure level, maximum level and equivalent continuous sound level in the hydrometallurgical plant.

NOISE CONTROL IN THE OFFICES AND THE LABORATORY

1. The disc filter area office and the lunch room for employees working in the area both give adequate protection. The noise is concentrated under 85 dBA (Fig. 6-1).
2. Noise in the mechanic maintenance office (out) is concentrated under 85 dBA. If measurements were taken in the office, the noise would be 15 dBA lower (Fig. 6-2). This level of noise permits work to go on undisturbed. The measured noise was ~62 dBA (Table 1, No. 12).
3. The shifter's office in the cab and outside the cab has a satisfactory noise level (Fig. 7). During the day (from 0800 hr to 1600 hr) noise inside and outside the cab is higher than it is during the second and third shift.
4. Noise in the mill laboratory has a satisfactory level (Fig. 8). The main level of noise is below 65 dBA.

In the drum filter area outside the laboratory, during the day and night shifts, the steady noise is concentrated between 82 and 85 dBA.

The walls partitioning all offices and the laboratory are made of plywood and glass. With little expense it would be possible to achieve considerable protection.

MEASUREMENT OF NOISE EXPOSURE INDEX OF EMPLOYEES IN PLANT

In May 1978, at the American Industrial Hygiene Association Conference, Los Angeles, California, L.F. Yerges, contributing editor of Sound and Vibration, said: "We do not measure industrial noise exposure correctly unless we have reasonably accurate measurements made in the near vicinity of the workers' ears and for representative time periods,....." (2).

In 1980 we have realized the dream of all those who work at measuring the noise exposure index. The applied system of measurement using profiling

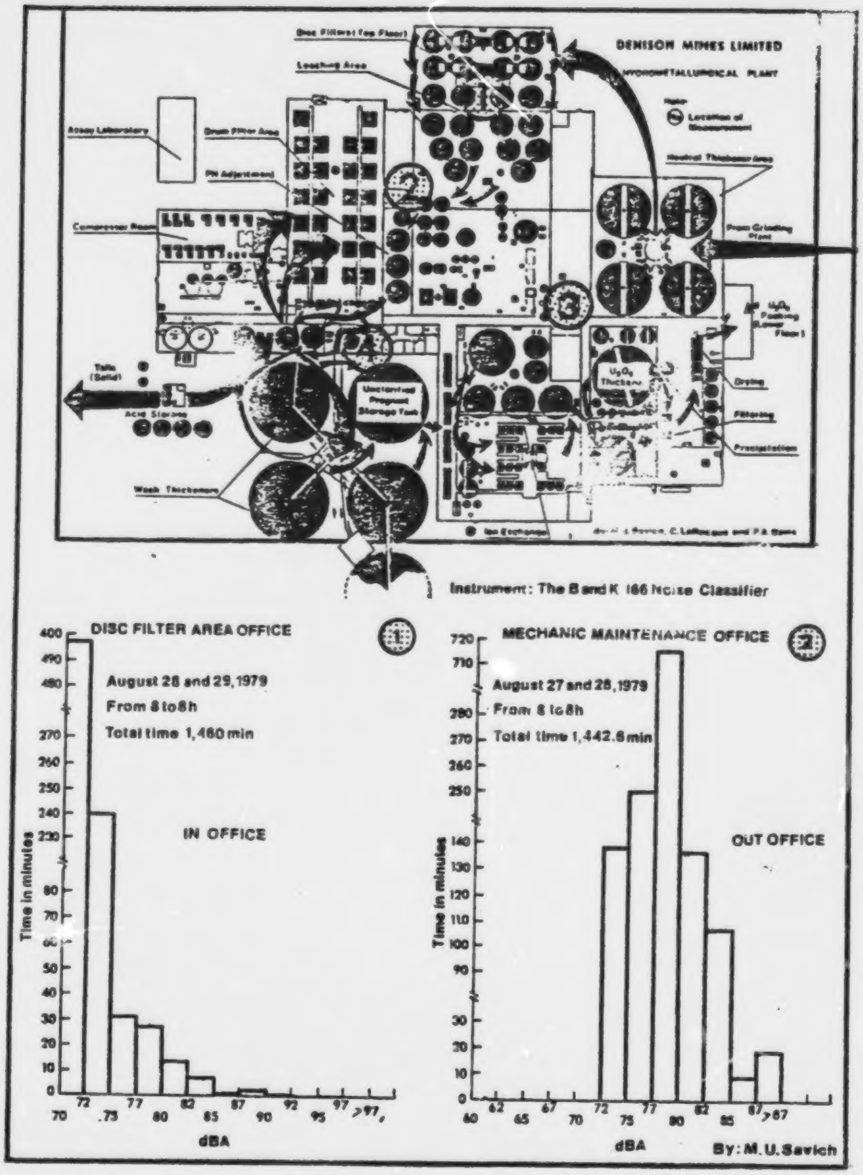


Fig. 6: The noise in office at disc filter area and outside the mechanical maintenance office during night shifts.

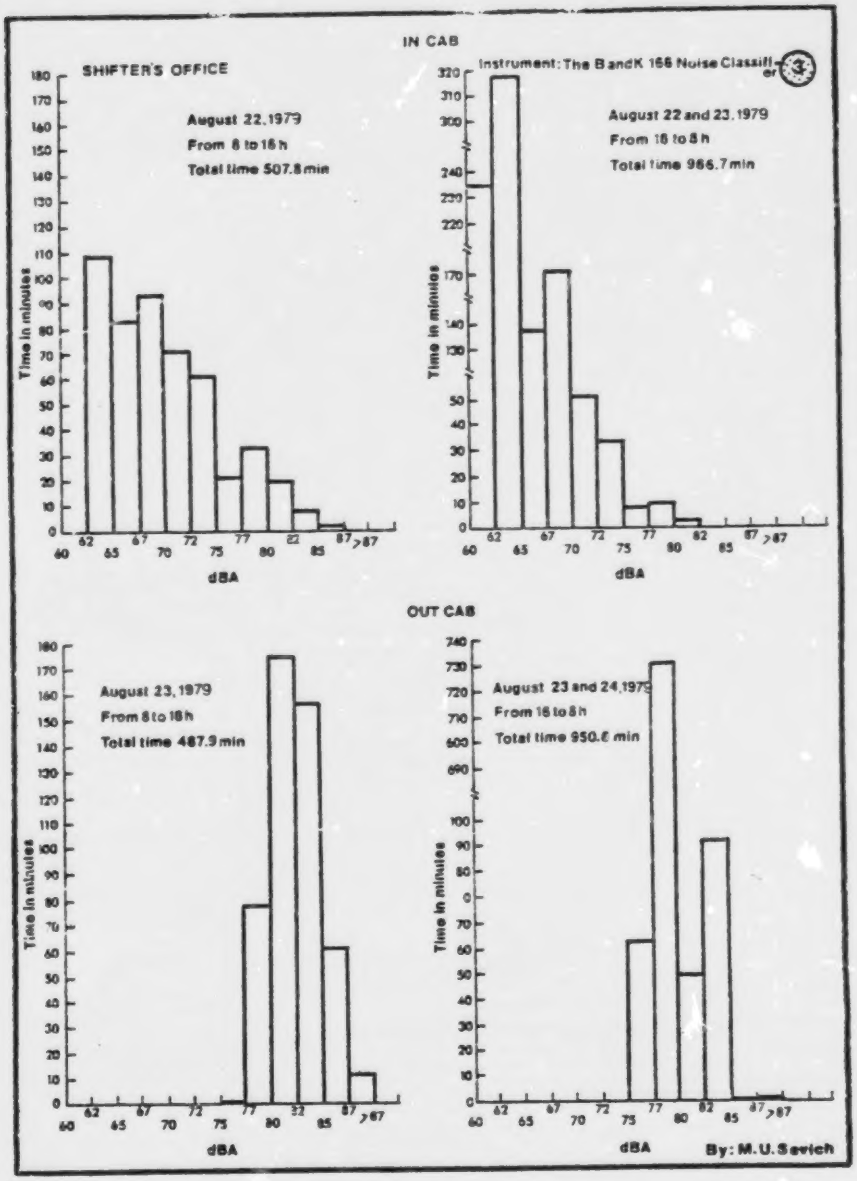


Fig. 7: The noise in the cab and outside the cab during day and night shifts.

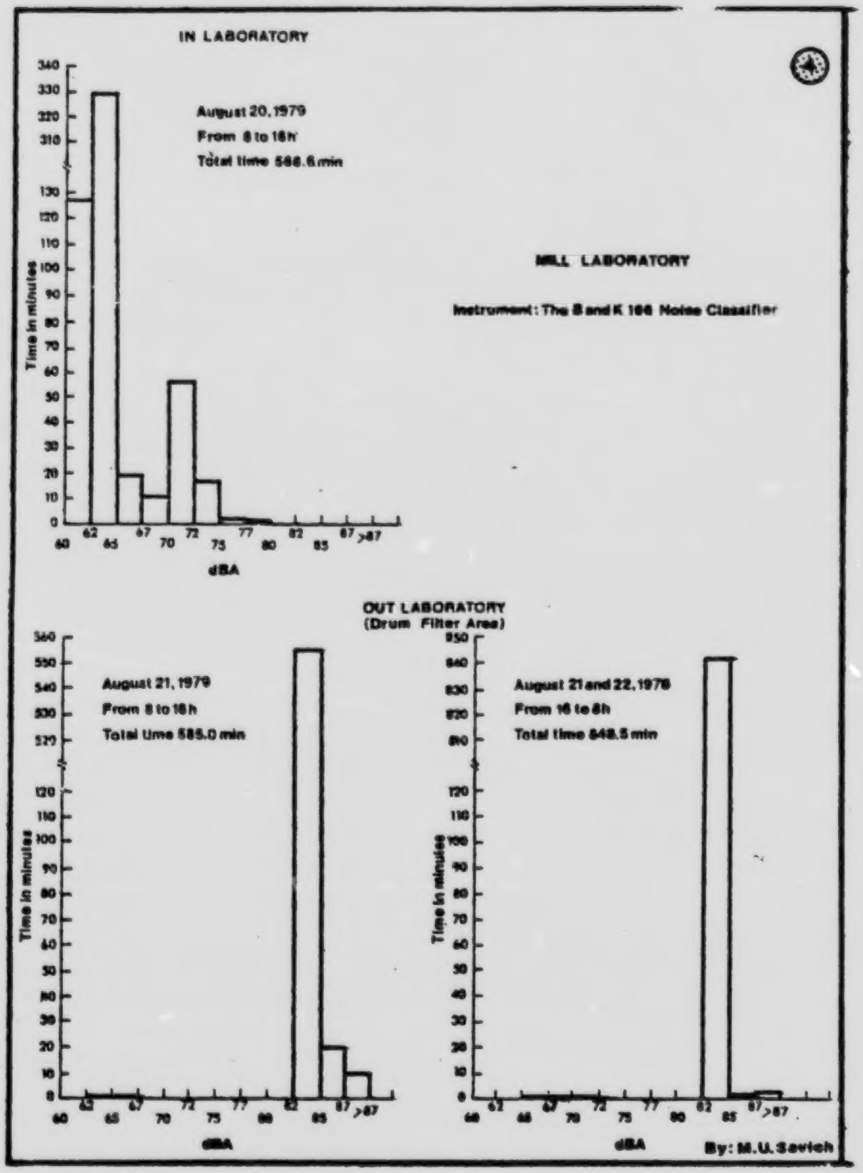


Fig. 8: The noise in the mill laboratory during day shift, and outside the mill laboratory (drum filter area) during day and night shifts.

dosimeters supplemented by other measurements completes the noise picture and gives the answers to all questions pertaining to safety.

Appendix 1 gives a detailed analysis of noise exposure of employees in the hydrometallurgical plant. The computer gives a report on each worker. The most important data from Appendix 1: time, L_{OSHA} and time distribution by steps of 5 dBA are presented in Table 2. Analysis of this data indicates the following:

1. The labour force has on the average approximately equal L_{OSHA}, 79.18 ± 3.08 dBA to 82.80 ± 3.11 dBA. Employees in the compressor room 90.71 ± 2.28 dBA and the boiler plant 84.1 ± 0.28 dBA are excepted.
2. Due to lack of full shift observation, the L_{OSHA} of workers Nos. 27, 38, 41, 58, 70 and 93 were not estimated in Table 2. The exposure of mechanic No. 74 was not estimated, since he held the dosimeter in one place. Workers No. 11 and No. 72 did not wear the dosimeters correctly, but since they worked in the noisiest place, the test was used.
3. The noise in the plant agrees with results obtained by the dosimeter, $L_{OSHA} \approx SPL$.
4. Only the compressor room (power plant) represents a dangerous source of noise. All the other working places satisfy the level in the existing standard.
5. During operation of the plant the workers are frequently relocated, thus helping to rest their ears.

CONCLUSION AND RECOMMENDATION

Generally speaking, the internal plant noise is dominated by steady noise. The noise is caused by machines and not by material impacting.

The engineering control and solutions in the hydrometallurgical plant

Table 2 - Results of L_{OSHA} and time during work day

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
	A Are																	
1	0310	172	Operator	480	81.9	43	18	28	26	255	108	2	0	0	0	0	0	480
2	0310	172	Operator	461	82.8	53	16	17	49	175	167	3	0	0	0	0	0	480
			Mean	470.5	82.35	48	17	22.5	37.5	215	137.5	2.5	0	0	0	0	0	480
			Std.Dev.	13.44	0.64	7.07	1.41	7.78	16.26	56.57	41.72	0.71	0	0	0	0	0	480
	B Are																	
3	4035	174	Operator	471	81	66	29	30	61	216	77	1	0	0	0	0	0	480
4	0433	172	Operator	460	83.1	95	24	42	78	123	80	28	7	3	0	0	0	480
			Mean	465.5	82.05	80.5	26.5	36	69.5	170.5	78.5	14.5	3.5	1.5	0	0	0	480
			Std.Dev.	7.78	1.48	20.51	3.54	8.49	12.02	64.35	2.12	19.09	4.95	2.12	0	0	0	480
	C Are																	
5	0697	170	Operator	480	82	178	72	39	27	43	54	55	12	0	0	0	0	480
6	0265	172	Operator	480	80.6	97	55	73	57	83	100	13	2	0	0	0	0	480
7	0745	170	Operator	480	80.4	182	50	28	20	62	122	16	0	0	0	0	0	480
8	0265	172	Operator	480	82.3	97	52	42	53	91	109	34	2	0	0	0	0	480
9	0265	172	Operator	480	81.5	124	56	47	45	62	120	26	0	0	0	0	0	480
10	0745	170	Operator	480	82.6	116	45	24	39	56	170	30	0	0	0	0	0	480
			Mean	480	81.57	132.33	55	42.17	40.17	66.17	112.5	29	2.67	0	0	0	0	480
			Std.Dev.	0	0.90	38.43	9.21	17.41	14.51	17.75	37.53	15.07	4.68	0	0	0	0	480
	D Area																	
11	0047	172	Operator	480	92.1	41	12	8	13	48	19	259	80	0	0	0	0	480
12	0047	172	Operator	461	94.8	20	0	0	3	7	7	244	199	0	0	0	0	480
13	2393	170	Operator	480	84	20	9	14	9	241	186	1	0	0	0	0	0	480
14	0952	176	Operator	476	80.7	46	48	73	79	139	89	3	3	0	0	0	0	480
15	0720	170	Operator	480	75.7	132	60	89	121	65	8	3	2	0	0	0	0	480
16	0720	170	Operator	478	81.3	46	33	31	45	204	117	4	0	0	0	0	0	480
17	0720	170	Operator	480	82.6	29	12	18	43	292	74	12	0	0	0	0	0	480
			Mean	476.43	84.46	47.71	24.86	33.29	44.71	142.29	71.43	75.14	40.57	0	0	0	0	480
			Std.Dev.	6.97	6.71	38.82	22.5	34.25	42.86	107.35	66.38	120.60	75.82	0	0	0	0	480
	E Area																	
18	3377	170	Operator	480	80.1	44	31	39	83	262	20	1	0	0	0	0	0	480
19	3377	170	Operator	472	81.9	32	27	31	58	262	64	6	0	0	0	0	0	480
20	0697	170	Operator	460	78.2	280	46	23	19	42	43	27	0	0	0	0	0	480
21	4037	174	Operator	480	81.5	58	36	27	32	215	102	10	0	0	0	0	0	480
22	2393	170	Operator	475	84.6	20	5	6	13	199	231	6	0	0	0	0	0	480
23	4037	174	Operator	471	83.9	79	37	21	47	214	79	3	0	0	0	0	0	480
			Mean	473	81.7	85.5	30.33	24.5	42	199	89.83	8.83	0	0	0	0	0	480
			Std.Dev.	7.43	2.37	97.47	13.97	11.1	26.2	81.32	74.79	9.41	0	0	0	0	0	480

Cont. overleaf

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
	F Area																	
24	0687	170	Operator	480	69.8	248	116	64	32	13	5	2	0	0	0	0	0	480
25	0921	176	Operator	480	78.2	66	36	77	142	131	28	0	0	0	0	0	0	480
26	2392	170	Operator	480	83.6	10	5	5	12	308	139	1	0	0	0	0	0	480
			Mean	480	77.2	108	52.33	48.67	62	150.67	57.33	1.0	0	0	0	0	0	480
			Std.Dev.	0	6.95	124.43	57.27	38.37	70	148.48	71.65	1.0	0	0	0	0	0	480
	H Area																	
27	3352	174	Operator*	196	72.3	360	45	21	32	21	1	0	0	0	0	0	0	480
28	0907	176	Operator	480	78.8	61	42	76	114	146	39	2	0	0	0	0	0	480
29	0162	170	Operator	480	71.4	290	64	41	41	35	6	3	0	0	0	0	0	480
30	0589	174	Operator	480	89.7	66	6	16	27	37	94	177	56	1	0	0	0	480
31	3352	174	Hyster Driver	480	78.8	155	37	43	82	101	50	11	1	0	0	0	0	480
32	4648	295	Dryman	480	68.1	365	32	33	18	32	0	0	0	0	0	0	0	480
33	4648	295	Dryman	480	74.9	231	67	38	53	52	39	0	0	0	0	0	0	480
34	0433	172	Packer	480	83	101	35	41	53	122	80	38	9	1	0	0	0	480
			Mean	480	77.81	181.29	40.43	41.14	55.43	75	44	33	9.43	0.29	0	0	0	480
			Std.Dev.	0	7.24	117.57	20.66	17.92	33.08	47.17	34.79	64.92	20.8	0.49	0	0	0	480
	O Area																	
35	7335	172	Operator	480	82.1	130	33	47	35	149	51	32	2	0	1	0	0	480
36	4037	174	Operator	480	84.2	54	13	18	47	186	108	54	0	0	0	0	0	480
37	4035	174	Oper.Helper	480	81.3	77	26	19	39	236	83	0	0	0	0	0	0	480
			Mean	480	82.[illegible]	87	24	28	40.33	190.33	80.67	28.67	0.67	0	0.33	0	0	480
			Std.Dev.	0	1.5	38.97	10.15	16.46	6.11	43.66	28.54	27.15	1.15	0	0.58	0	0	480
	All Area		Mean	476.81	81.21	104.22	35.69	35.17	47.64	136.11	79.67	30.75	10.42	0.14	0	0	0	480
			Std.Dev.	6.38	5.17	86.27	23.47	21.90	31.76	88.82	55.29	62.68	36.07	0.54	0	0	0	480
	All Area																	
38	1084	060	Carpenter*	364	81.9	200	16	12	11	175	54	8	4	0	0	0	0	480
39	1084	060	Carpenter	480	80.6	54	11	9	36	368	2	0	0	0	0	0	0	480
40	7158	060	Carpenter	480	85	12	9	20	26	268	103	35	5	2	0	0	0	480
41	0601	064	Painter*	309	78.9	254	23	48	45	56	52	2	0	0	0	0	0	480
			Mean	480	82.80	33	10	14.50	31	318	52.50	17.50	2.50	1	0	0	0	480
			Std.Dev.	0	3.11	29.70	1.41	7.78	7.07	70.71	71.42	24.75	3.54	1.41	0	0	0	480
	All Area																	
42	0952	176	Labourer	480	81.1	104	22	21	20	254	59	0	0	0	0	0	0	480
43	0906	176	Labourer	480	78.9	71	43	60	110	158	38	0	0	0	0	0	0	480
44	0950	176	Labourer	480	77.7	204	28	41	61	87	51	8	0	0	0	0	0	480
45	0952	176	Labourer	480	78.2	79	65	70	95	148	23	0	0	0	0	0	0	480
46	0908	176	Labourer	458	75.1	180	50	67	85	91	7	0	0	0	0	0	0	480
47	0952	176	Labourer	446	79.3	146	39	46	71	98	79	1	0	0	0	0	0	480
48	0939	176	Labourer	480	85.6	132	54	59	57	42	42	54	31	8	1	0	0	480

Cont. overleaf

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
49	0961	176	Labourer	480	81.7	25	36	64	74	173	10	6	0	0	0	0	0	480
50	0905	176	Labourer	480	74	152	72	82	103	67	[illegible]	0	0	0	0	0	0	480
51	9164	PCE	Engineer	480	73.7	260	44	38	59	67	12	0	0	0	0	0	0	480
52	0905	176	Labourer	480	80.4	69	51	36	55	217	45	7	0	0	0	0	0	480
53	0941	176	Labourer	480	79.5	34	33	77	132	163	38	2	1	0	0	0	0	480
54	0906	176	Labourer	478	81	52	21	23	22	150	187	25	0	0	0	0	0	480
55	0939	176	Labourer	477	82.2	118	18	22	35	195	82	10	0	0	0	0	0	480
56	4656	296	Labourer	480	79.7	96	57	56	62	122	82	5	0	0	0	0	0	480
57	0961	176	Labourer	480	78.7	74	58	83	103	117	37	7	1	0	0	0	0	480
			Mean	476.19	79.18	112.25	43.19	52.81	71.50	134.31	55.50	7.81	2.06	0.50	0.06	0	0	480
			Std.Dev.	9.73	3.08	64.20	16.17	20.99	31.77	58.67	45.20	13.89	7.72	2.00	0.25	0	0	480
	All Area																	
58	0197	011	Mechanic*	385	81.8	139	36	16	31	140	117	1	0	0	0	0	0	480
59	0784	011	Mechanic	480	77	99	46	88	121	101	25	0	0	0	0	0	0	480
60	0213	011	Mechanic	480	80	44	35	74	83	178	59	5	2	0	0	0	0	480
61	3478	011	Mechanic	480	82.7	60	22	34	51	164	127	21	1	0	0	0	0	480
62	0470	001	Mechanic	480	83	18	17	51	52	184	151	6	1	0	0	0	0	480
63	3402	086	Mechanic	480	76.2	197	54	65	54	71	32	7	0	0	0	0	0	480
64	0305	001	Mechanic	480	84.7	12	11	19	28	189	204	7	10	0	0	0	0	480
65	0780	001	Mechanic	480	76.5	145	84	82	66	55	45	3	0	0	0	0	0	480
66	0503	038	Mechanic	480	75.4	213	61	54	60	65	23	4	0	0	0	0	0	480
67	0751	011	Mechanic	480	72.8	290	38	32	75	30	11	4	0	0	0	0	0	480
68	0305	001	Mechanic	480	82.1	29	19	32	34	271	94	1	0	0	0	0	0	480
69	1483	001	Mechanic	480	80.9	22	30	58	111	189	69	1	0	0	0	0	0	480
70	0780	001	Mechanic*	365	77.1	264	36	55	47	35	33	10	0	0	0	0	0	480
71	0441	031	Mechanic	480	77.4	113	89	68	85	80	44	1	0	0	0	0	0	480
72	3478	001	Mechanic	480	81.8	52	45	45	72	138	109	19	0	0	0	0	0	480
73	0205	172	Mechanic	479	84.1	47	26	35	35	168	131	33	5	0	0	0	0	480
74	7052	001	Mechanic*	480	84.8	1	5	7	10	110	347	0	0	0	0	0	0	480
75	0751	011	Mechanic	435	81.1	49	18	31	71	289	17	3	2	0	0	0	0	480
76	0213	011	Mechanic	448	85.6	68	16	39	62	49	128	118	0	0	0	0	0	480
77	0241	172	Mechanic	444	85.5	52	14	36	54	106	169	49	0	0	0	0	0	480
78	8700	141	Mechanic	480	78.9	93	83	105	95	62	12	25	5	0	0	0	0	480
79	0470	001	Mechanic	480	80.9	70	53	65	68	113	100	11	0	0	0	0	0	480
80	0656	001	Mechanic	480	82.2	33	45	43	55	111	105	24	3	0	0	0	0	480
81	7052	001	Mechanic	480	78.5	49	34	62	134	185	16	0	0	0	1	0	0	480
82	0734	038	Mechanic	475	77.8	125	42	69	88	117	38	1	0	0	0	0	0	480
83	0149	004	Welder	480	80.6	61	35	63	108	150	41	20	1	1	0	0	0	480
84	5385	086	Fitter Mainten.	480	85.9	27	17	16	13	35	359	13	0	0	0	0	0	480
85	5385	086	Fitter Mainten.	480	85.7	39	9	15	19	33	369	5	0	0	0	0	0	480
			Mean	475.42	80.85	79.54	36.46	49.58	65.19	124.73	108.65	14.65	1.15	0.04	0.04	0	0	480
			Std.Dev.	12.27	3.62	67.99	23.43	24.24	32.82	59.51	106.06	24.30	2.33	0.20	0.20	0	0	480

Cont. overleaf

No.	User Code	Job Code	Operation	Time (min)	L_{OSHA} (dBA)	Frequency Distributions (min/dBA)												Σ Time (min)
						60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	
	Power House																	
86	2413	001	Compressor Mech	480	89.2	110	45	24	10	17	43	219	8	1	2	1	0	480
87	0832	031	Compressor Mech	480	88.1	83	11	5	7	17	212	139	5	1	0	0	0	480
88	4358	101	Compressor Mech	480	94.7	90	15	17	7	12	35	131	132	30	7	4	0	480
89	2413	001	Compressor Mech	480	89.3	86	6	8	5	6	84	276	6	2	0	1	0	480
90	0832	031	Compressor Mech	480	90.2	66	17	15	14	20	43	241	64	0	0	0	0	480
91	2413	001	Compressor Mech	480	90.8	38	13	3	3	4	90	320	9	0	0	0	0	480
92	4358	101	Compressor Mech	480	92.7	90	19	27	14	25	36	140	104	25	0	0	0	480
			Mean	480	90.71	80.43	18	14.14	8.57	14.43	77.57	209.43	46.86	8.43	1.29	0.86	0	480
			Std.Dev.	0	2.28	22.74	12.64	9.28	4.28	7.55	63.51	74.92	53.50	13.13	2.63	1.46	0	480
	All Area																	
93	9619	MEF	Mech Foreman*	118	74.8	433	16	6	9	9	5	1	1	0	0	0	0	480
94	9149	MGT	Metallurgist	480	68.7	336	64	32	22	20	6	0	0	0	0	0	0	480
95	9274	PCE	Engineer	480	72.4	208	102	74	61	22	9	4	0	0	0	0	0	480
			Mean	480	70.55	272	83	53	41.5	21	7.5	2	0	0	0	0	0	480
			Std.Dev.	0	2.62	90.51	26.87	29.70	27.58	1.41	2.12	2.83	0	0	0	0	0	480
	Boiler Pl.																	
96	2010	357	Stationary Eng.	480	83.9	87	12	8	25	224	71	42	11	0	0	0	0	480
97	0923	360	Stationary Eng.	480	84.3	127	25	26	39	141	66	34	17	4	1	0	0	480
98	0105	359	Stationary Eng*	285	81.1	254	3	6	17	159	40	1	0	0	0	0	0	480
			Mean	480	84.1	107	18.50	17	32	182.5	68.5	38	14	2	0.5	0	0	480
			Std.Dev.	0	0.28	28.28	9.19	12.73	9.9	58.69	3.54	5.66	4.24	2.83	0.71	0	0	480

* Not estimated

should be divided into three parts: modification to the forces within the source, modification to the coupling between source and path, and modification to the path itself. The flow graph presents an engineering control and solution to a noise problem in the hydrometallurgical plant (Fig. 9).

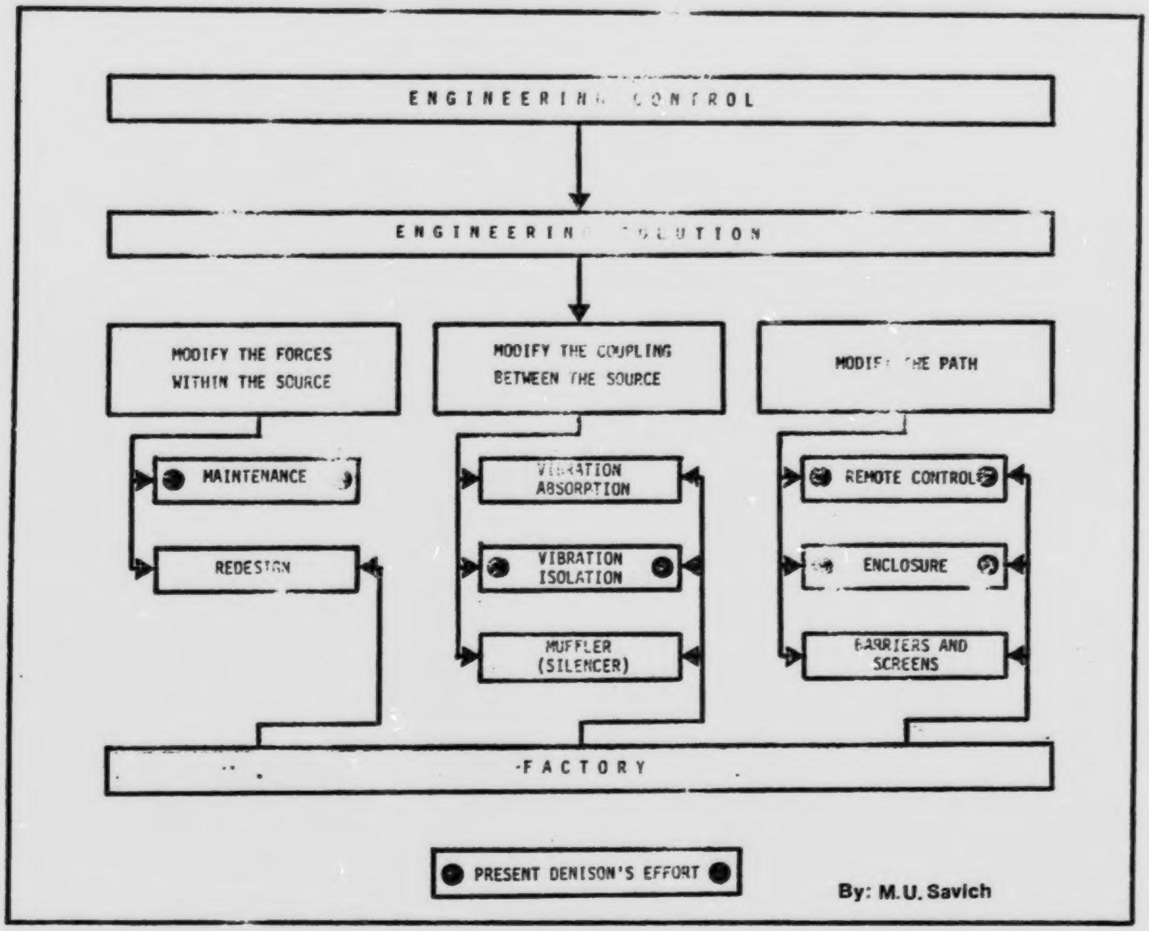

ENGINEERING CONTROL
ENGINEERING SOLUTION
MODIFY THE FORCES WITHIN THE SOURCE
MODIFY THE COUPLING BETWEEN THE SOURCE
MODIFY THE PATH
MAINTENANCE
REDESIGN
VIBRATION ABSORPTION
VIBRATION ISOLATION
MUFFLER (SILENCER)
REMOTE CONTROL
ENCLOSURE
BARRIERS AND SCREENS
FACTORY
● PRESENT DENISON'S EFFORT ●
By: M.U. Savich

Fig. 9: Flow diagram for engineering control and solution to a noise problem in the hydrometallurgical plant.

MODIFICATION TO THE FORCES WITHIN THE SOURCE

1. Maintenance

The noise from a machine can be excessive because of wear to bearings or gears or misalignment of shafts. Maintenance done in due time will help to keep the machine in good working order, thereby minimizing noise.

2. Re-design

This approach demands detailed study and full cooperation with the factory. In many cases the machine cannot be re-designed because it loses its capacity.

MODIFICATION TO THE COUPLING BETWEEN SOURCE AND PATH

The measurements have shown that the compressor room (power house) is the major source of noise and vibration. Vibration isolation reduces the transmitted vibration from a machine to its supporting structure.

A detailed study of vibration isolation, vibration damping and mufflers should be done in order for these methods to be applied.

MODIFICATION TO THE PATH

1. Increasing the noise source to receiver distance is the best technique of modifying the path (remote control). The sound pressure level will reduce 6 dB per doubling of distance in the free field condition. In a semi-reverberant field there will be less reduction.
2. Denison already has experience with enclosures. Measurements have shown that enclosures are very useful, whether they are made of wood or a special material.
3. Barriers and screens are incomplete enclosures. In semi-reverberant and reverberant fields they are ineffective. They would not be useful in the hydrometallurgical plant.

The measurements have shown that noise does not exceed 90 dBA except in the compressor room (92 dBA). Careful analysis along with a small financial investment could eliminate many noise sources. Personal protection equipment is adequate for the safety of workers at all locations in the hydrometallurgical plant.

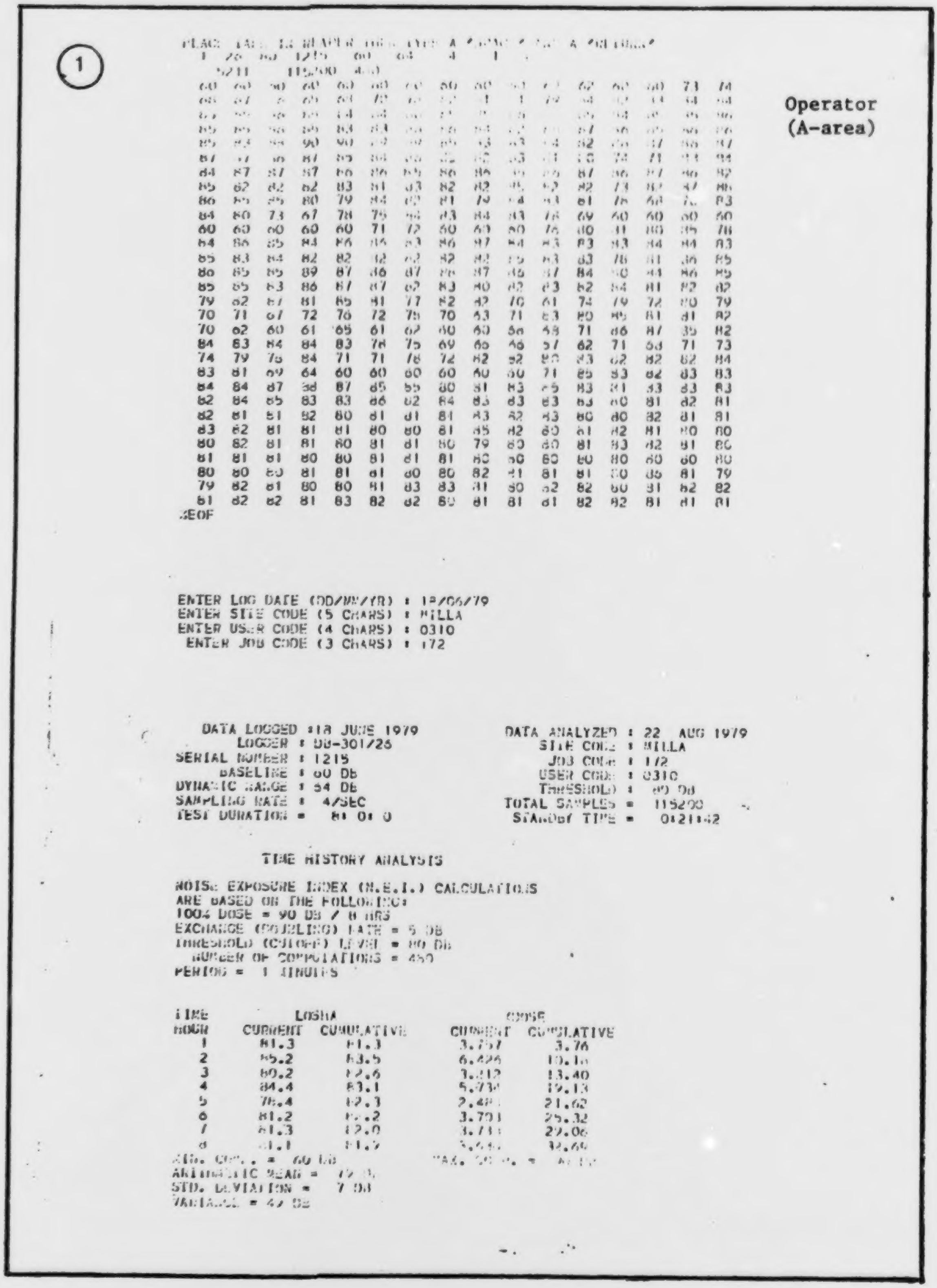
REFERENCES

1. Savich, M.U. "Characteristics of GR-1944 noise dosimeter in the laboratory and in the field"; Division Report MRP/MRL 76-83 (TR); CANMET, Energy, Mines and Resources Canada; 1976.

2. Yerges, L.F. "Do we correctly measure worker noise exposure ?"; Sound and Vibration, May 1979.

APPENDIX 1

MEASUREMENT OF NOISE EXPOSURE INDEX IN HYDROMETALLURGICAL PLANT WITH FULL INFORMATION: L_{OSHA} (CURRENT AND CUMULATIVE): PERCENT DOSE (CURRENT AND CUMULATIVE): ARITHMETIC MEAN: STANDARD DEVIATION: VARIANCE: AMPLITUDE DISTRIBUTION (GRAPHICAL AND NUMERICAL): AND TIME HISTORY (GRAPHICAL).



①

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:EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLA
ENTER USER CODE (4 CHARS) : 0310
 ENTER JOB CODE (3 CHARS) : 172


   DATA LOGGED :18 JUNE 1979             DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILLA
 SERIAL NUMBER : 1215                           JOB CODE : 172
      BASELINE : 60 DB                         USER CODE : 0310
 DYNAMIC RANGE : 54 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                  STANDBY TIME =   0:21:42

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

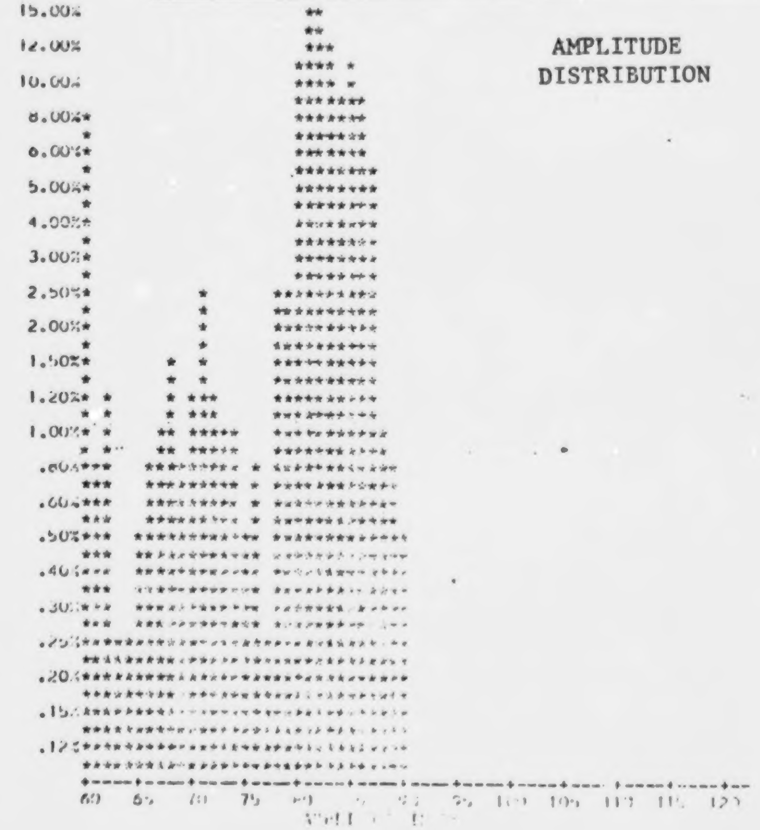

TIME          LOSHA                          DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
   1      81.3      81.3              3.757       3.76
   2      85.2      83.5              6.426      10.18
   3      80.2      82.6              3.212      13.40
   4      84.4      83.1              5.734      19.13
   5      78.4      82.3              2.48[illegible]      21.62
   6      81.2      8[illegible].2              3.701      25.32
   7      81.3      82.0              3.73[illegible]      29.06
   8      81.1      81.9              [illegible]      32.66
MIN. CUM. =  60 DB                   MAX. CUM. =  [illegible]
ARITHMETIC MEAN =  72 [illegible]
STD. DEVIATION =   7 DB
VARIANCE = 47 DB
```

Operator (A-area)

Ⓣ

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
43	9.0	60 TO 64
18	3.8	65 TO 69
28	5.8	70 TO 74
26	5.4	75 TO 79
255	53.1	80 TO 84
108	22.5	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

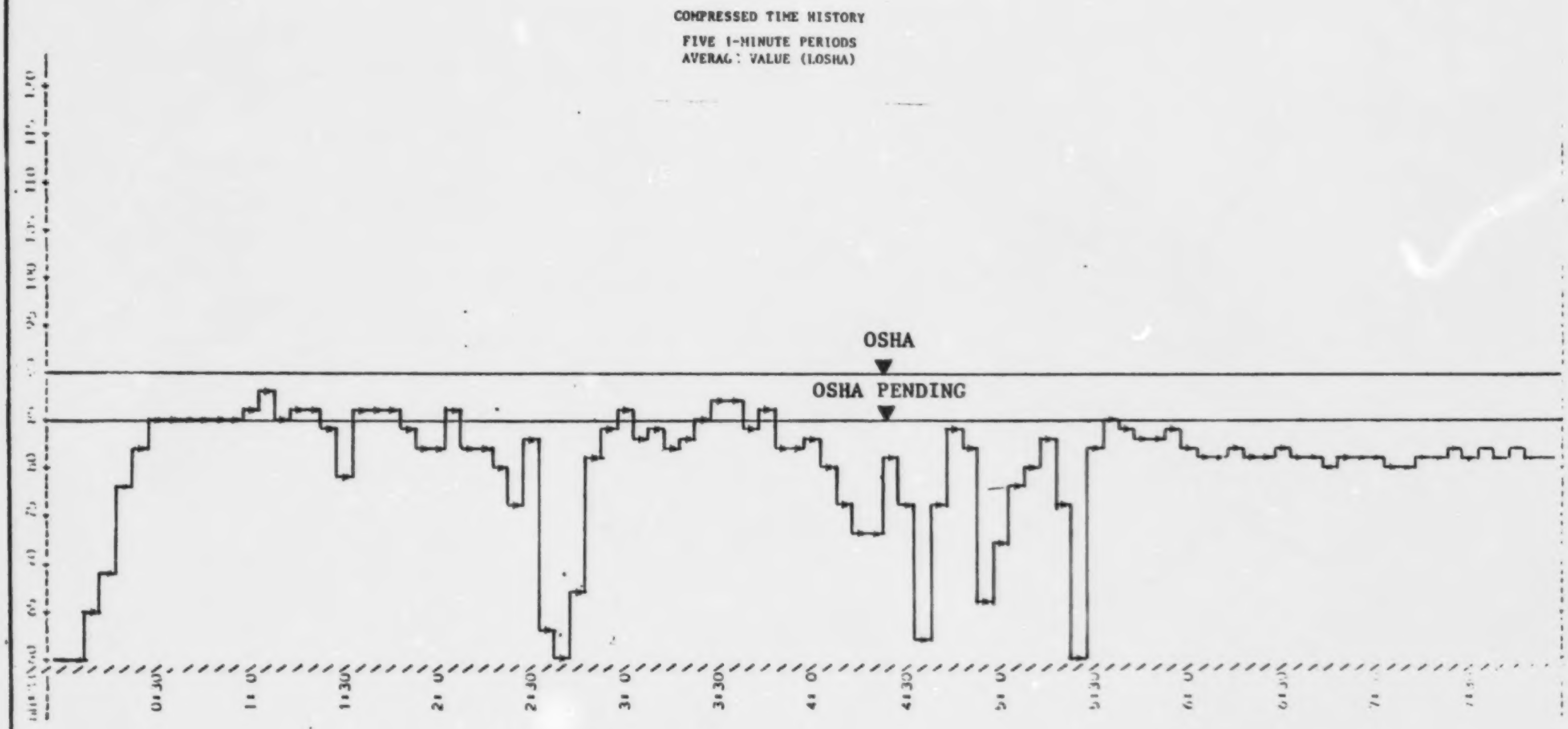
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480

①


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

②

Operator (A-area)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
 1  25  40  1221   60   64    4    1
  17145     110692   461
 80  81  79  71  82  80  80  82  82  81  80  80  80  81  80  80
 75  77  72  90  80  88  80  83  85  85  85  85  87  87  85  85
 85  85  86  86  85  85  86  87  87  84  84  85  84  83  85  82
 85  73  86  87  80  86  87  86  85  86  85  85  85  86  85  86
 84  87  87  87  80  87  86  85  83  85  84  80  74  86  86  84
 87  86  86  85  80  80  85  85  85  86  86  85  82  72  81  76
 79  84  87  85  81  84  85  83  84  85  80  80  80  80  85  84
 72  70  85  86  86  76  85  84  82  83  86  83  72  75  82  70
 76  79  77  81  85  83  82  84  81  83  81  83  85  87  84  85
 82  82  82  81  81  81  81  83  84  85  80  83  80  80  80  80
 80  80  84  80  84  85  85  84  85  85  86  86  85  85  85  82
 83  84  83  85  85  87  84  84  85  85  85  84  84  85  87  85
 87  85  85  87  87  89  87  86  87  87  86  86  86  86  86  86
 87  85  84  84  85  86  83  85  83  83  8   84  85  85  84  84
 84  85  86  86  86  86  86  87  87  87  86  86  85  86  84  85
 84  84  80  84  82  83  83  86  85  84  84  81  82  83  76  74
 68  73  67  80  80  79  80  80  80  80  79  79  79  79  79  79
 78  79  79  78  79  80  79  78  79  81  79  78  80  79  79  79
 80  78  81  79  80  80  80  80  82  85  85  86  85  85  85  82
 83  84  84  84  85  84  85  85  77  87  80  88  80  75  83  86
 80  84  83  79  85  85  85  80  81  81  83  84  80  92  85  83
 83  86  86  85  82  83  81  83  82  80  79  76  83  86  85  85
 85  86  84  85  85  84  83  86  83  81  83  80  81  82  71  78
 72  82  81  82  84  79  77  82  83  77  73  82  76  80  74  70
 85  83  82  77  77  79  81  85  85  84  82  84  80  81  81  80
 85  85  81  81  81  84  84  84  85  85  86  83  84  80  88  81
 77  81  80  80  80  80  79  81  80  80  82  85  86  86  87  77
 69  60  60  60  60  60  60  60  60  60  60  60  70  60  60  68
 66  65  65  61  68  61  61  61  60  60  70  60  79  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
4EOF


ENTER LOG DATE (MM/DD/YR) : 21,06/79
ENTER SITE CODE (5 CHARS) : MILLA
ENTER USER CODE (4 CHARS) : 0310
 ENTER JOB CODE (3 CHARS) : 172

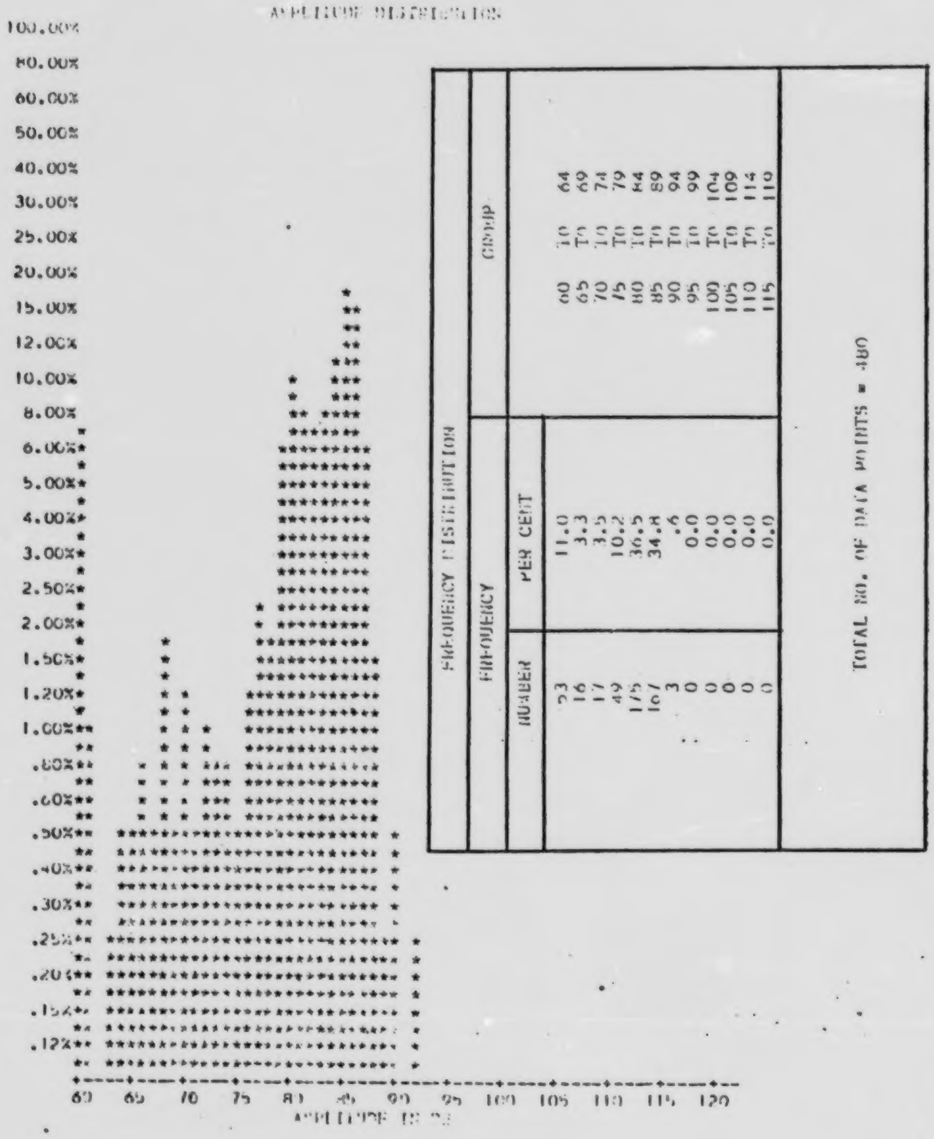

   DATA LOGGED :21 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/25                    SITE CODE : MILLA
 SERIAL NUMBER : 1221                          JOB CODE : 172
      BASELINE : 60 DB                        USER CODE : 0310
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110692
 TEST DURATION =    7:41:12                STANDBY TIME =   1:11:26

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 461
PERIOD =  1 MINUTES


TIME          LOSHA                     %DOSE
HOUR    CURRENT  CUMULATIV      CURRENT  CUMULATIV
   1      [illegible]  [illegible]  [illegible]  [illegible]
   2      83.6     83.7         5.1[illegible]    10.39
   3      82.2     83.2         4.2[illegible]    14.66
   4      [illegible]  83.0     6.[illegible]     21.[illegible]
   5      80.1     83.4         [illegible]      [illegible]
   6      83.7     84.4         [illegible]      [illegible]
   7      81.5     84.2         [illegible]      [illegible]
   8      75.1     [illegible]  1.[illegible]    [illegible]
[illegible]
[illegible]
STD. DEVIATION =   7.[illegible]
[illegible]
```

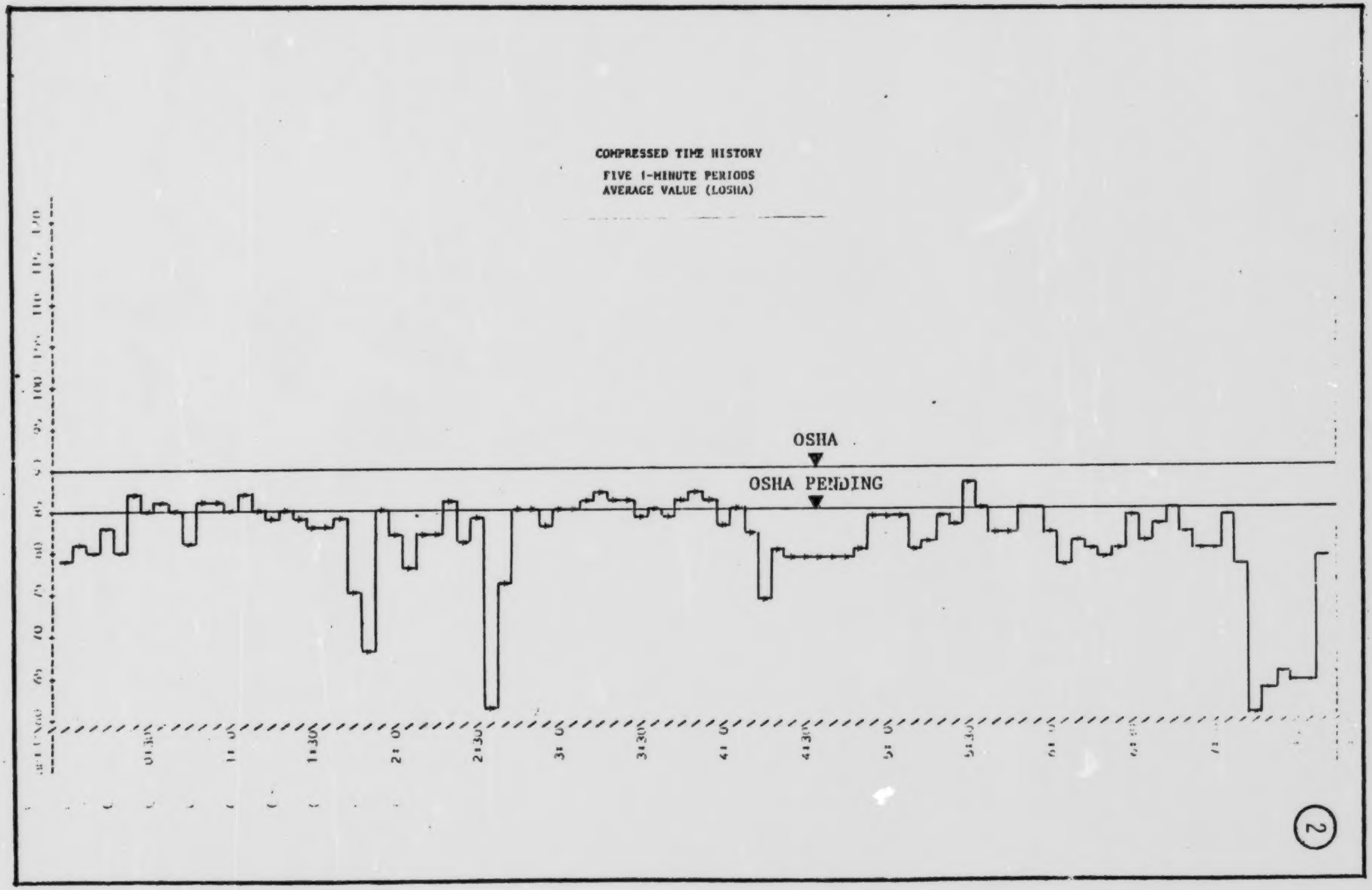
②



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
53	11.0	60 TO 64
16	3.3	65 TO 69
17	3.5	70 TO 74
49	10.2	75 TO 79
175	36.5	80 TO 84
167	34.8	85 TO 89
3	.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 461


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
2

③

Operator
(B-area)

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

   1  26  60  1215   60   64    4    1
   17851     113108  471
   81  86  85  87  84  85  84  85  83  [illegible]  81  84  80  82  83  84
   85  85  85  84  87  85  80  87  [illegible]  [illegible]  [illegible]  75  [illegible]  [illegible]  83  83
   86  84  83  84  83  83  85  85  83  [illegible]  85  83  86  84  72  63
   60  67  63  85  84  85  63  83  83  82  84  83  83  83  83  83
   81  81  82  83  83  83  83  83  83  [illegible]  85  83  83  83  84  80
   76  81  81  81  81  81  80  75  67  75  83  81  82  83  83  83
   85  85  86  85  83  85  84  83  83  84  84  84  83  84  84  85
   83  85  85  83  82  72  76  82  82  72  78  60  60  82  66  65
   65  68  66  80  83  73  62  71  76  74  71  66  72  67  66  70
   74  74  70  73  74  76  67  67  73  83  82  85  84  72  80  81
   60  81  79  81  84  86  81  79  60  75  83  83  83  82  86  91
   80  85  84  84  80  66  60  62  60  60  60  68  78  83  84  85
   84  83  84  84  83  85  84  79  80  81  80  81  81  81  83  84
   83  82  83  83  83  83  85  86  85  83  84  83  84  84  84  84
   84  81  76  84  84  84  85  85  85  84  85  87  87  85  85  85
   86  86  84  85  81  81  82  82  81  78  78  80  75  80  82  68
   72  71  73  63  60  68  68  60  60  63  60  65  65  60  61  74
   70  75  66  75  76  78  60  60  75  75  84  89  83  84  80  83
   81  61  85  83  82  83  63  77  79  62  75  66  60  60  60  60
   60  65  62  67  84  78  72  79  74  60  78  77  75  77  78  76
   72  80  80  83  85  83  82  78  66  60  60  60  60  60  61  60
   77  83  83  82  82  68  60  83  85  85  84  84  84  84  76  76
   80  60  83  83  85  85  83  84  84  84  87  85  83  86  75  62
   60  62  62  61  60  60  60  68  76  77  76  76  72  79  75  81
   75  70  62  82  80  80  80  71  70  60  60  77  78  70  79  80
   78  84  80  81  79  80  80  81  80  81  81  80  80  80  82  85
   85  85  84  84  81  81  76  85  85  84  85  87  86  85  84  83
   82  76  84  82  81  83  83  82  74  74  73  79  78  78  78  79
   81  82  77  83  80  80  65  84  85  85  81  66  71  60  64  63
   60  61  60  60  63  64  69  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 21/06/79

ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 4035
 ENTER JOB CODE (3 CHARS) : 174



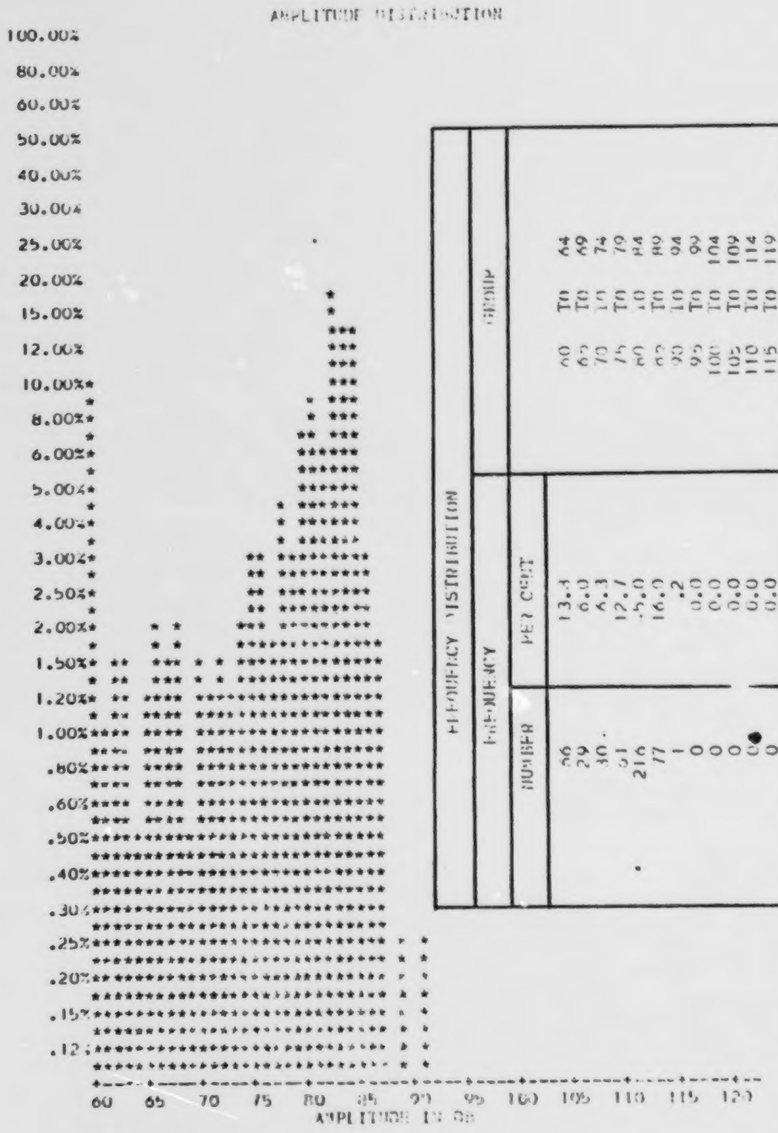
   DATA LOGGED :21 JUNE 1979            DATA ANALYZED : 24  AUG 1979
       LOGGER : DP-301/26                   SITE CODE : MILL+
SERIAL NUMBER : 1215                         JOB CODE : 174
     BASELINE : 60 DB                       USER CODE : 4035
DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  113108
TEST DURATION =   7:51:17                STANDBY TIME =   1:14:30

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 471
PERIOD =  1 MINUTES

TIME          LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      83.6      83.6            5.118      5.12
   2      82.6      83.1            4.491      9.61
   3      79.5      82.1            2.93[illegible]     12.54
   4      82.7      82.3            4.549     17.09
   5      78.8      81.7            2.583     19.75
   6      78.8      81.3            2.663     22.42
   7      79.2      81.0            2.7[illegible]     25.21
   8      80.4      81.0            2.7[illegible]     28.00
MIN. COMP. =  60 DB              MAX. COMP. =  91 DB
ARITHMETIC MEAN =  78 DB
STD. DEVIATION =   8 DB
VARIANCE = 64 DB
```

③

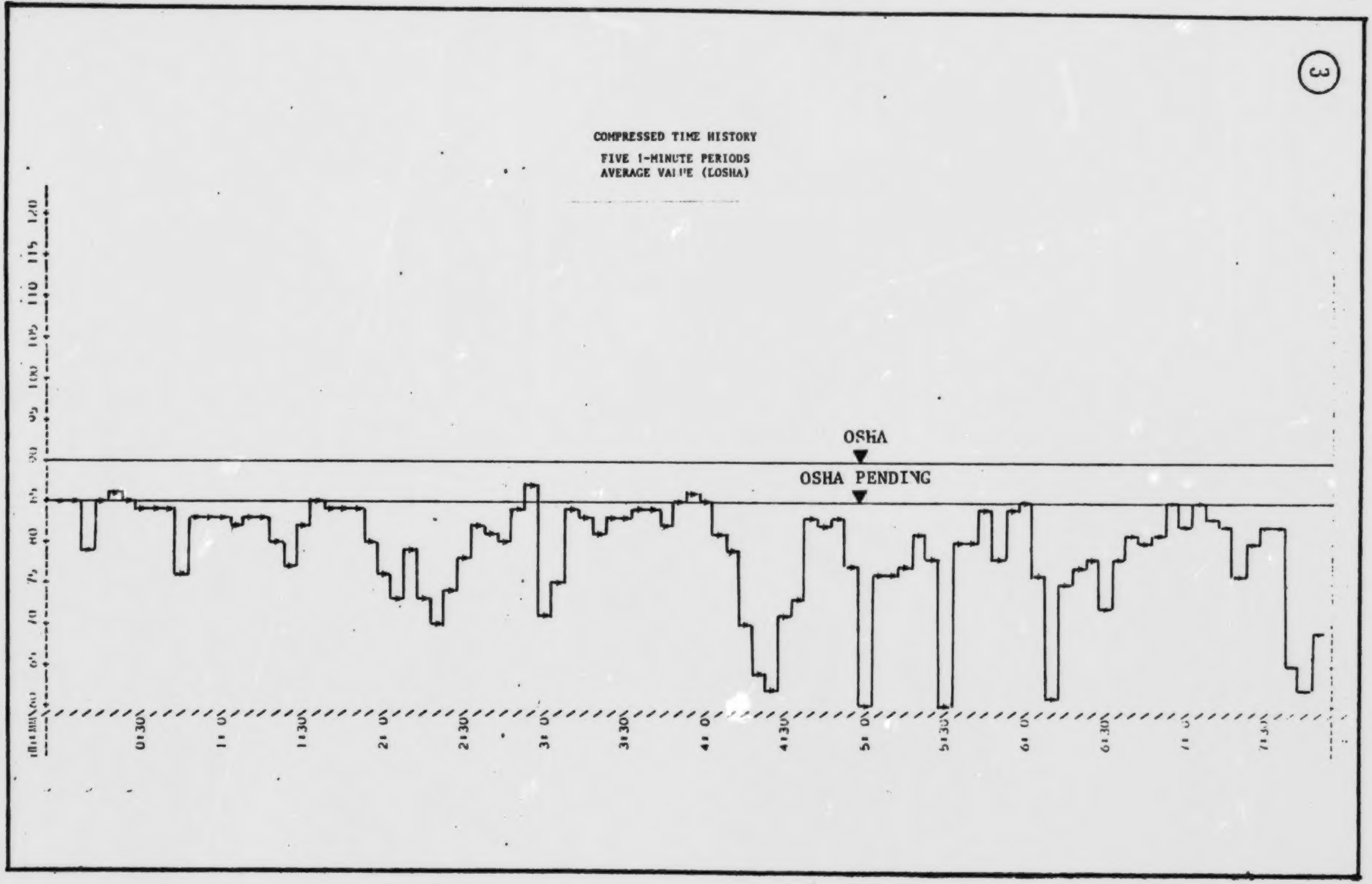


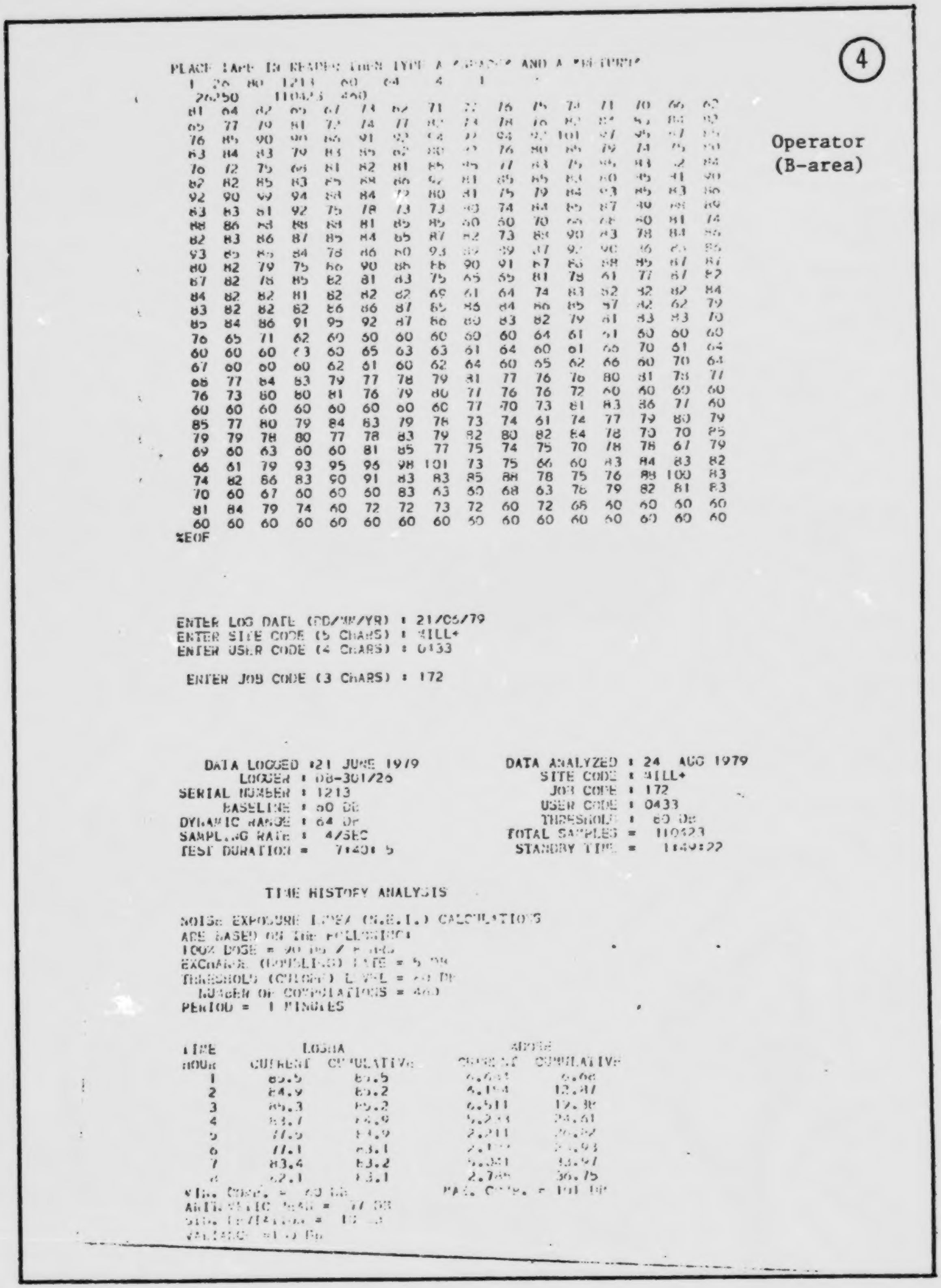
FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
66	13.8	60 TO 64
29	6.0	65 TO 69
30	6.3	70 TO 74
61	12.7	75 TO 79
216	45.0	80 TO 84
77	16.0	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 471


③
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30



④

```
PLACE TAPE IN READER: THEN TYPE A "[illegible]" AND A "RETURN"
  1  26  80  1213   60   64    4    1     .
  26250     110423  460
 81  64  82  65  67  73  82  71  [illegible]  76  75  74  71  70  66  62
 65  77  79  81  72  74  77  82  73  78  76  82  84  [illegible]  84  82
 76  85  90  90  86  91  92  [illegible]  [illegible]  94  92 101  97  95  87  [illegible]
 83  84  83  79  83  85  82  80  [illegible]  76  80  85  79  74  75  [illegible]
 76  72  75  68  81  82  81  85  [illegible]  77  83  75  86  83  [illegible]  84
 82  82  85  83  85  88  86  82  81  85  85  83  80  85  81  90
 92  90  99  94  88  84  72  80  81  75  79  84  83  85  83  86
 83  83  81  92  75  78  73  73  [illegible]  74  84  85  87  80  [illegible]  89
 88  86  83  88  84  81  85  85  80  80  70  [illegible]  [illegible]  80  81  74
 82  83  86  87  85  84  85  87  82  73  89  90  83  78  84  [illegible]
 93  85  85  84  78  86  80  93  [illegible]  89  87  92  90  76  [illegible]  86
 80  82  79  75  86  90  86  86  90  91  87  86  88  85  87  87
 87  82  78  85  82  81  83  75  85  85  81  78  81  77  87  82
 84  82  82  81  82  82  82  69  61  64  74  83  82  82  82  84
 83  82  82  82  86  86  87  85  85  84  86  85  87  82  62  79
 85  84  86  91  95  92  87  86  80  83  82  79  81  83  83  70
 76  65  71  62  60  60  60  60  60  60  64  61  61  60  60  60
 60  60  60  63  60  65  63  63  61  64  60  61  65  70  61  64
 67  60  60  60  62  61  60  62  64  60  65  62  66  60  70  64
 68  77  84  83  79  77  78  79  81  77  76  76  80  81  78  77
 76  73  80  80  81  76  79  80  77  76  76  72  80  80  69  60
 60  60  60  60  60  60  60  60  77  70  73  81  83  86  77  60
 85  77  80  79  84  83  79  78  73  74  61  74  77  79  80  79
 79  79  78  80  77  78  83  79  82  80  82  84  78  70  70  85
 69  60  63  60  60  81  85  77  75  74  75  70  78  78  67  79
 66  61  79  93  95  96  98 101  73  75  66  60  83  84  83  82
 74  82  86  83  90  91  83  83  85  88  78  75  76  88 100  83
 70  60  67  60  60  60  83  63  60  68  63  76  79  82  81  83
 81  84  79  74  60  72  72  73  72  60  72  68  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0433

 ENTER JOB CODE (3 CHARS) : 172



   DATA LOGGED :21 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : 08-301/26                    SITE CODE : MILL+
 SERIAL NUMBER : 1213                          JOB CODE : 172
      BASELINE : 60 DB                        USER CODE : 0433
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  60 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110423
 TEST DURATION =   7:40: 5                 STANDBY TIME =   1:49:22

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPILATIONS = 460
PERIOD =  1 MINUTES

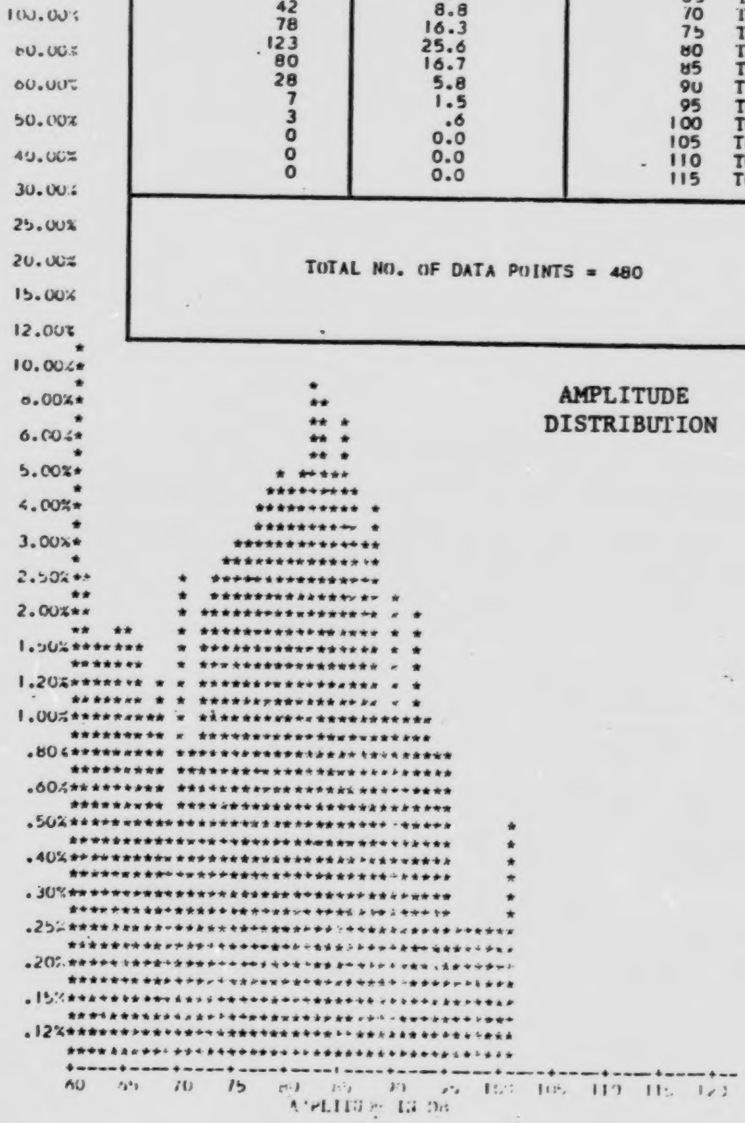
TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
  1       85.5      85.5             6.66[illegible]    6.66
  2       84.9      85.2             [illegible]       12.87
  3       85.3      85.2             6.511      19.38
  4       83.7      84.9             5.233      24.61
  5       77.5      83.9             2.211      26.82
  6       77.1      83.1             2.1[illegible]      28.93
  7       83.4      83.2             5.041      33.97
  8       82.1      83.1             2.78[illegible]      36.75
MIN. CONC. =  60 DB                MAX. CONC. = 101 DB
ARITHMETIC MEAN =  77 DB
STD. DEVIATION =  10 DB
VARIANCE = 1[illegible] DB
```

Operator
(B-area)

④

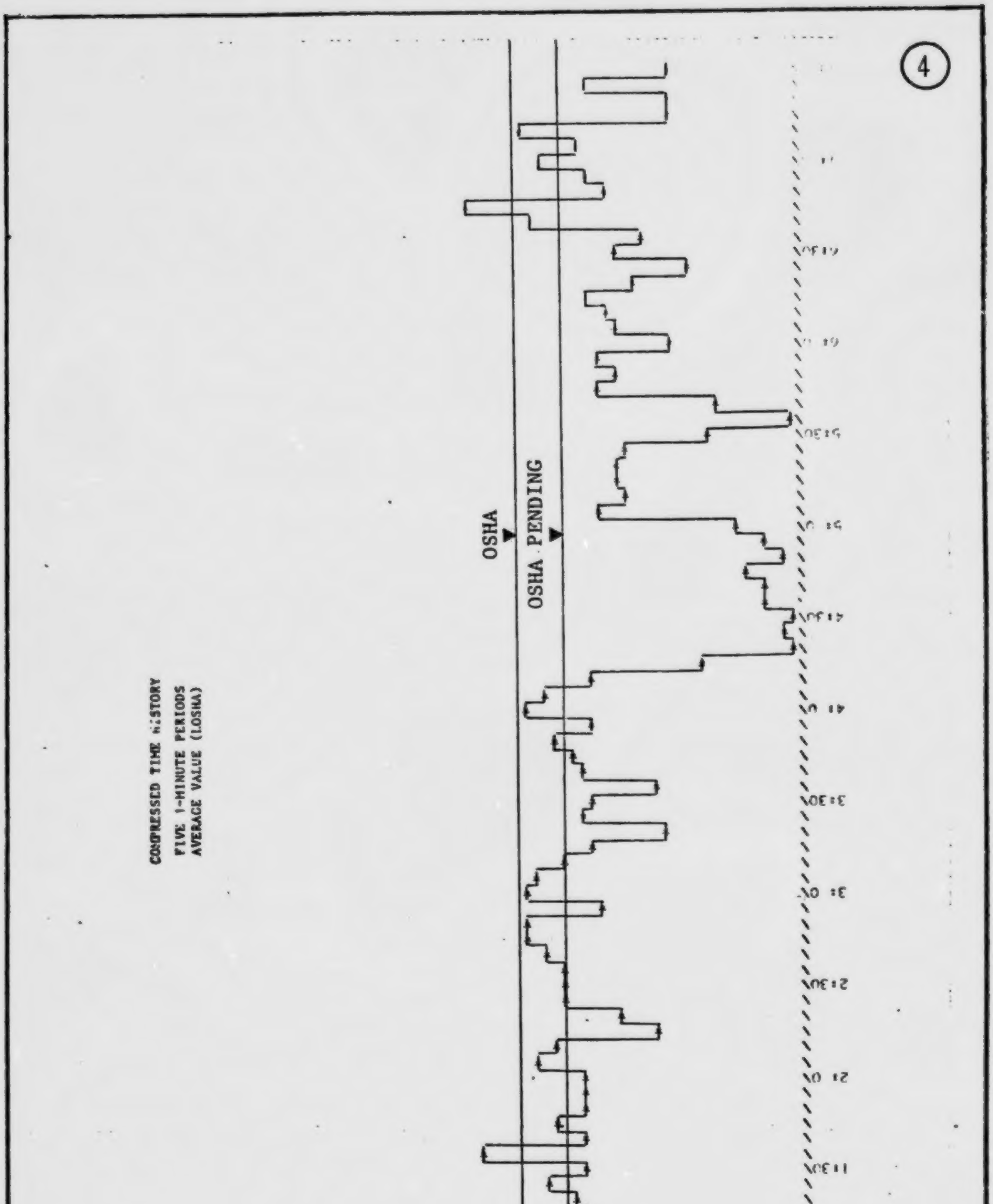
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
95	19.8	60 TO 64
24	5.0	65 TO 69
42	8.8	70 TO 74
78	16.3	75 TO 79
123	25.6	80 TO 84
80	16.7	85 TO 89
28	5.8	90 TO 94
7	1.5	95 TO 99
3	.6	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



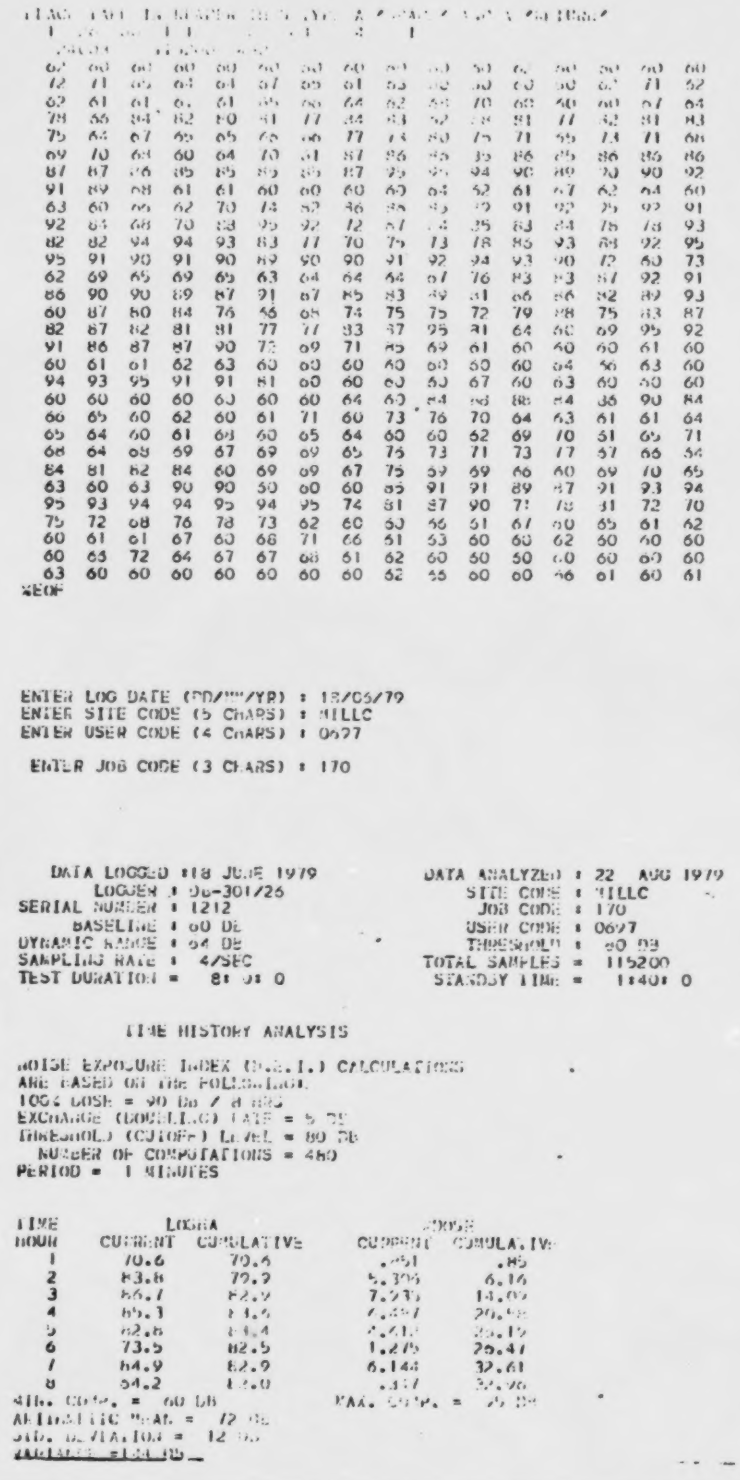
AMPLITUDE
DISTRIBUTION

Number of computations = 460


④
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
65
70
75
80
85
90
95
100
105
110
115
120

⑤

Operator (C-area)



```
[illegible]
[illegible]
[illegible]
 62  60  60  60  60  60  60  60  60  60  60  62  60  60  60  60
 72  71  65  64  64  67  65  61  63  60  60  60  60  62  71  62
 62  61  61  6.  61  65  60  64  62  63  70  60  60  60  67  64
 78  86  84  82  80  81  77  84  83  82  78  81  77  82  81  83
 75  64  67  65  65  65  66  77  73  80  75  71  65  73  71  68
 69  70  63  60  64  70  61  87  86  85  85  86  85  86  85  86
 87  87  86  85  85  85  85  87  95  95  94  90  89  90  90  92
 91  89  68  61  61  60  60  60  60  64  62  61  67  62  64  60
 63  60  66  62  70  74  82  86  88  85  79  91  92  95  92  91
 92  84  68  70  88  95  92  72  87  84  85  83  84  78  78  93
 82  82  94  94  93  83  77  70  75  73  78  85  93  84  92  95
 95  91  90  91  90  89  90  90  91  92  94  93  90  72  60  73
 62  69  65  69  65  63  64  64  64  67  76  83  83  87  92  91
 86  90  90  89  87  91  87  85  83  89  81  66  86  82  89  93
 60  87  80  84  76  66  65  74  75  75  72  79  88  75  83  87
 82  87  82  81  81  77  77  83  87  95  81  64  60  69  95  92
 91  86  87  87  90  72  69  71  85  69  61  60  60  60  61  60
 60  61  61  62  63  60  60  60  60  60  60  60  64  56  63  60
 94  93  95  91  91  81  60  60  60  60  67  60  63  60  60  60
 60  60  60  60  60  60  60  64  60  84  88  88  84  86  90  84
 66  65  60  62  60  61  71  60  73  76  70  64  63  61  61  64
 65  64  60  61  63  60  65  64  60  60  62  69  70  61  65  71
 68  64  68  69  67  69  69  65  75  73  71  73  77  67  66  64
 84  81  82  84  60  69  69  67  75  59  69  66  60  69  70  65
 63  60  63  90  90  60  60  60  85  91  91  89  87  91  93  94
 95  93  94  94  95  94  95  74  81  87  90  71  78  81  72  70
 75  72  68  76  78  73  62  60  60  66  61  67  60  65  61  62
 60  61  61  67  60  68  71  66  61  63  60  60  62  60  60  60
 60  65  72  64  67  67  68  61  62  60  60  60  60  60  60  60
 63  60  60  60  60  60  60  60  62  65  60  60  66  61  60  61
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLC
ENTER USER CODE (4 CHARS) : 0697

 ENTER JOB CODE (3 CHARS) : 170



   DATA LOGGED :18 JUNE 1979               DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILLC
 SERIAL NUMBER : 1212                           JOB CODE : 170
      BASELINE : 60 DB                         USER CODE : 0697
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                  STANDBY TIME =   1:40: 0

          TIME HISTORY ANALYSIS

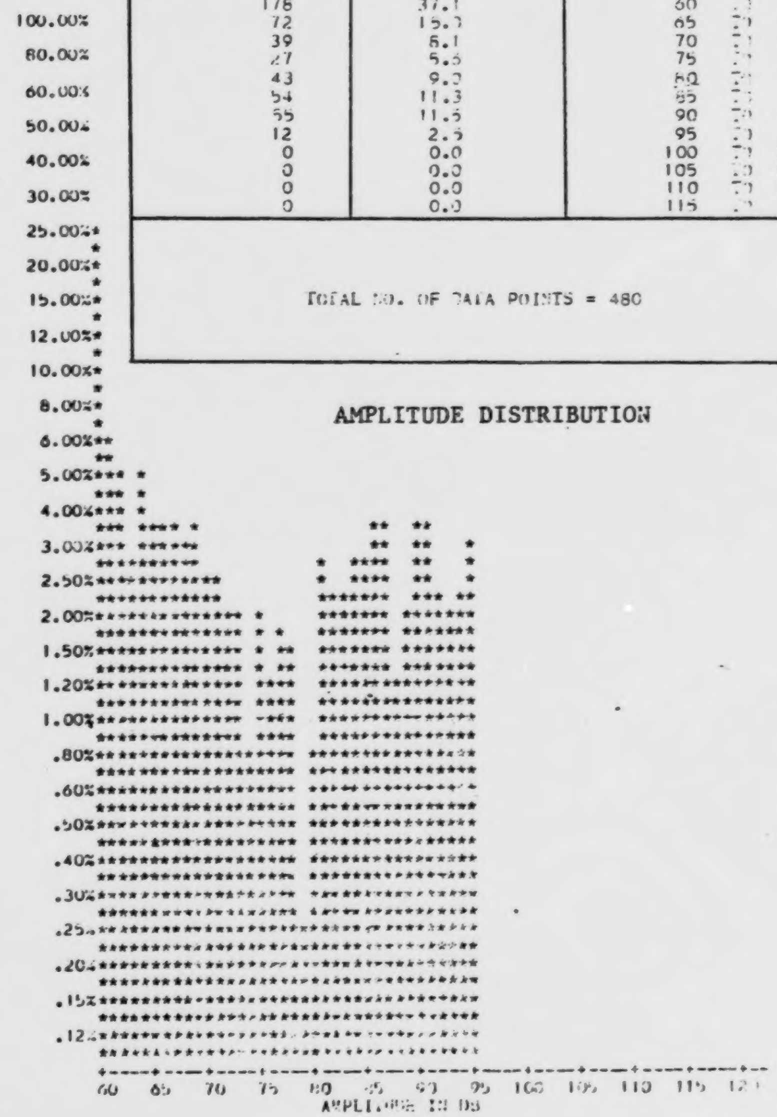
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING.
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOGNA                    %DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
  1       70.6       70.6           .851       .85
  2       83.8       79.9          5.306      6.16
  3       86.7       82.9          7.935     14.09
  4       85.3       83.6          6.497     20.59
  5       82.8       83.4          4.61      25.19
  6       73.5       82.5          1.275     26.47
  7       84.9       82.9          6.144     32.61
  8       54.2       82.0           .317     32.96
MIN. COMP. =  60 DB              MAX. COMP. =  95 DB
ARITHMETIC MEAN =  72 DB
STD. DEVIATION =  12 DB
VARIANCE =1[illegible] DB
```

⑤

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
178	37.1	60 TO 64
72	15.0	65 TO 69
39	8.1	70 TO 74
27	5.6	75 TO 79
43	9.0	80 TO 84
54	11.3	85 TO 89
55	11.5	90 TO 94
12	2.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

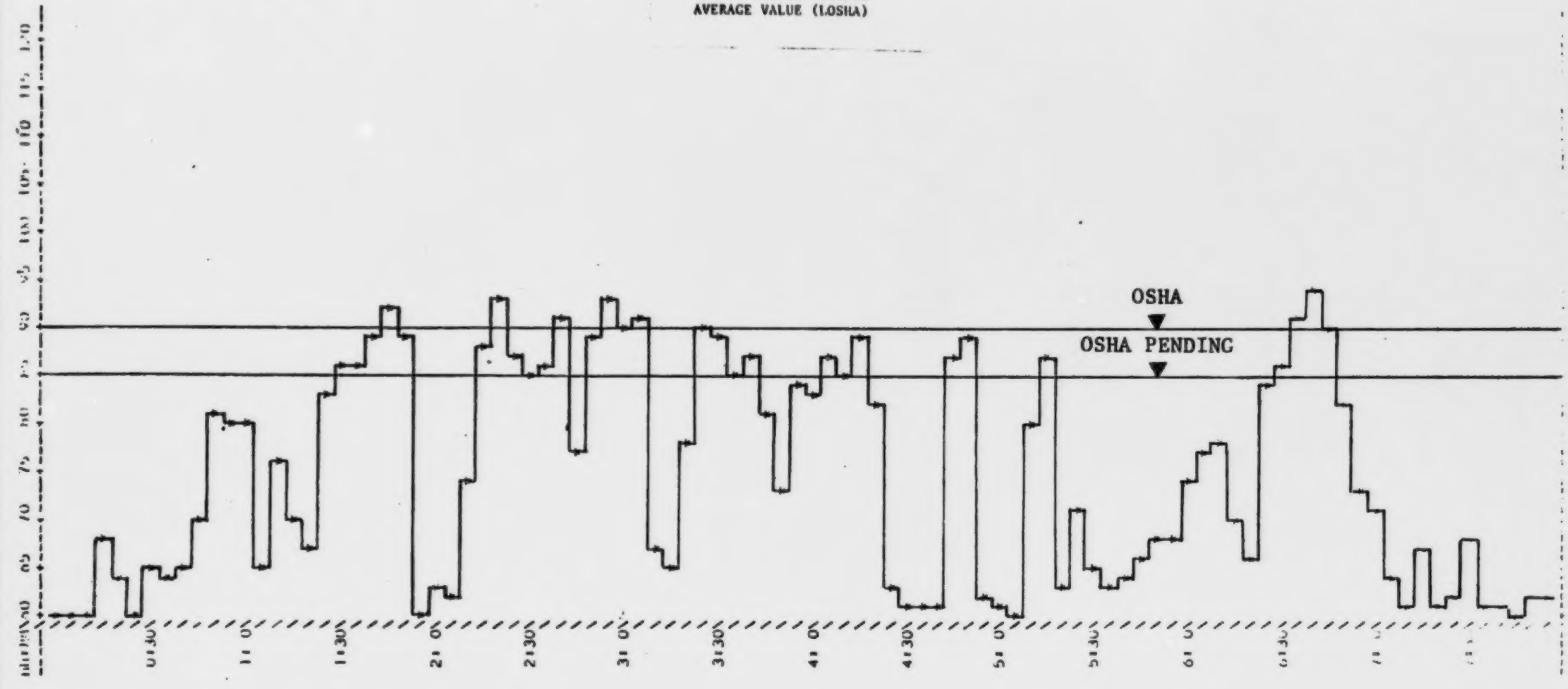


AMPLITUDE DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑤

⑥

Operator
(C-area)

```
[illegible]
  1  26  80  121      6      84      4      1
 301474      115?  [illegible]  20  1
 78   64   65   85   85   85   65   85  [illegible]  70   86   78   77   70   60   60
 60   61   60   86   92   84   61   86  [illegible]  74   83   87   74   60   60   60
 74   78   69   74   61   79   63   84   64   72   49   82   64   77   76   83
 81   80   83   82   72   82   53   45   52   53   75   83   32   [illegible]   82   83
 81   73   81   81   61   81   40  [illegible]  [illegible]  72   70   64   52   60   60   61
 67   72   60   72   73   71   73   55  [illegible]   60   87   85   85   85   86   85
 85   86   80   87   87   86   86   86   72   65   80   80   85   86   85   86
 80   92   95   91   92   92   95   95   61   91   93   77   68   75   73   73
 64   63   71   72   75   70   64   45   51   55   60   66   61   72   62   61
 71   70   73   69   69   74   76   71   63   77   67   79   67   65   71   70
 69   76   53   85   79   56   55   85  [illegible]  [illegible]   87   87   67   55   87   67
 67   87   67   86   60   60   64   86   67   67   67   67   66   81   47   87
 58   69   67   80   76   78   83   65   75   67   56   60   60   50   60   60
 60   70   60   62   60   74   75   80   79   79   77   79   76   75   41   74
 75   75   80   81   64   82   76   86   71   67   88   90   79   85   84   82
 60   60   63   60   60   66   67   66   67   55   64   73   71   53   71   70
 74   70   67   50   67   67   63   71   73   63   75   54   70   71   78   71
 75   78   65   73   72   77   73   83   63   72   71   65   72   73   69   65
 60   73   72   67   67   56   69   85   92   92   92   61   76   80   80   79
 72   79   79   72   75   60   60   60   62   53   50   60   62   60   50   60
 61   60   82   86   85   80   72   83   62   51   60   60   60   60   71   77
 70   60   60   60   60   50   60   64   72   71   70   66   60   62   62   55
 68   69   63   63   64   68   66   70   7?   56   73   72   56   55   66   85
 87   87   67   87   87   87   87   87   87   87   87   87   87   87   81   87
 67   87   57   87   87   87   67   87   87   56   78   76   73   77   81   76
 75   79   77   80   75   60   70   65   69   73   64   70   64   60   55   72
 65   79   81   61   62   60   79   75   60   50   60   83   83   81   81   81
 81   82   81   81   81   81   81   82   82   81   81   82   81   81   82   81
 82   82   82   82   82   82   82   79   75   73   66   60   64   61   77   79
 73   70   72   50   72   76   70   71   63   50   60   60   67   64   63   64
%EOF



ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLI
ENTER USER CODE (4 CHARS) : 0265

 ENTER JOB CODE (3 CHARS) : 172



   DATA LOGGED :25 JUNE 1979              DATA ANALYZED : 26  AUG 1979
       LOGGER : DE-301/25                     SITE CODE : MILLI
SERIAL NUMBER : 121                            JOB CODE : 172
     LAS LINE : 50 [illegible]                           USER CODE : 0265
DYNAMIC RANGE : 64 DB                         THRESHOLD : [illegible]
SAMPLING RATE : 4/SEC                     TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                  STANDBY TIME =  20:56: H

          TIME HISTORY ANALYSIS

NOISE EXPOSURE [illegible] (N.E.I.) CALCULATIONS
[illegible] ON THE FOLLOWING
[illegible] = [illegible]
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1 MINUTES

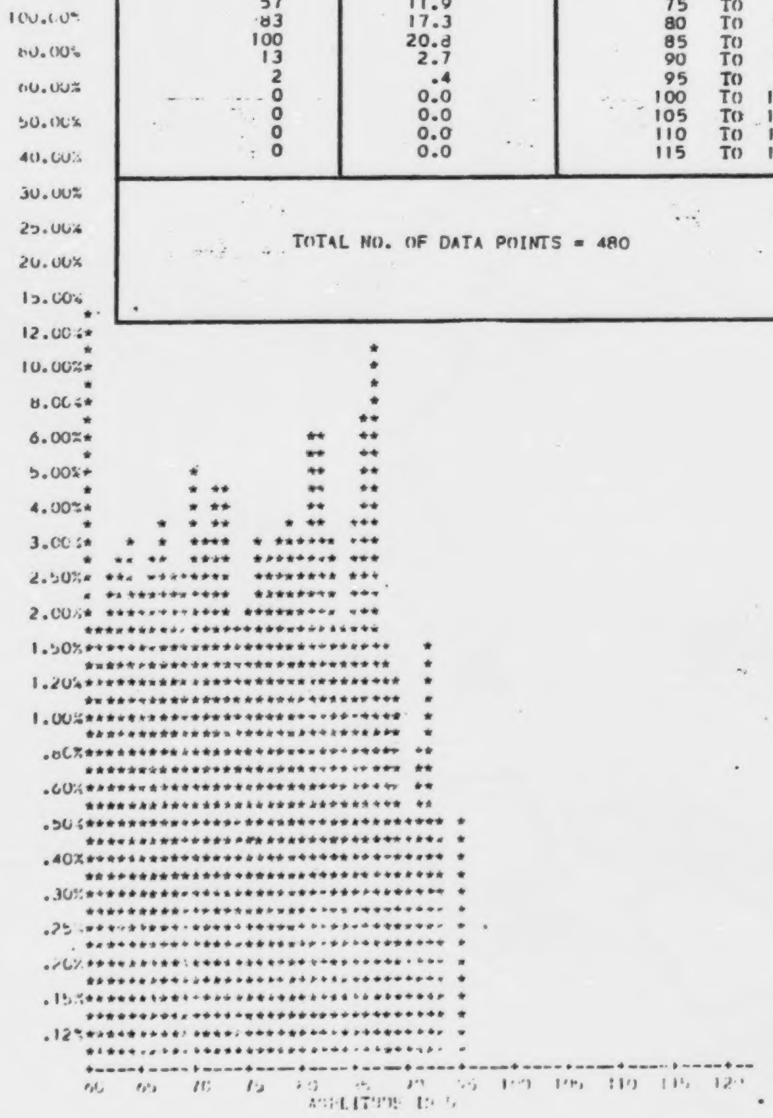
TIME          LOG:A                      [illegible]
HOUR    CURRENT   CUMULATIVE         [illegible]    CUMULATIVE
   1       72.2      [illegible]            [illegible]       [illegible]
   2       64.6      [illegible]            [illegible]       [illegible]
   3       71.2      [illegible]            [illegible]      12.64
   4       62.1      [illegible]            [illegible]      1[illegible]
   5       77.[illegible]      71.4            [illegible]       1[illegible]
   6       72.7      [illegible]             1.131      [illegible]
   7       62.7      [illegible]            [illegible]      24.75
   8       77.6      [illegible]            [illegible]      27.04
[illegible] = [illegible]            [illegible] = [illegible]
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

⑥

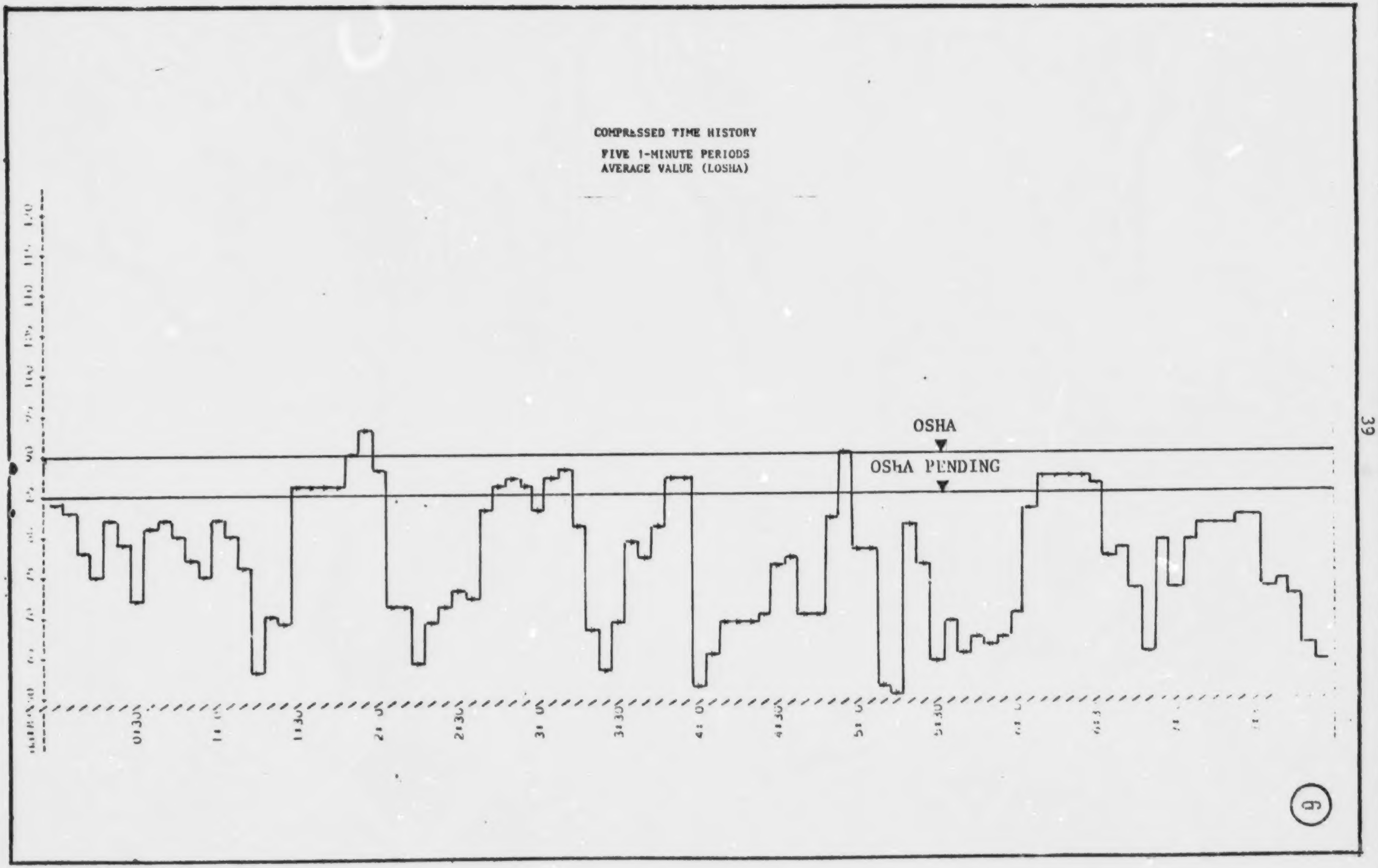
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION				
FREQUENCY		GROUP		
NUMBER	PER CENT			
97	20.2	60	TO	64
55	11.5	65	TO	69
73	15.2	70	TO	74
57	11.9	75	TO	79
83	17.3	80	TO	84
100	20.8	85	TO	89
13	2.7	90	TO	94
2	.4	95	TO	99
0	0.0	100	TO	104
0	0.0	105	TO	109
0	0.0	110	TO	114
0	0.0	115	TO	119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑦

Operator (C-area)

```
PLACE TAPE IN READER [illegible] TYPE A [illegible] A RETURN

 1   26   80  1216   60   64    4    1
    309      115200  480
 75  72  84  89  87  87  87  86  74  80  [illegible]  86  72  [illegible]  82  73
 63  70  76  78  61  80  60  85  78  54  [illegible]  60  60  60  60  60
 63  60  60  64  60  50  63  60  63  [illegible]  [illegible]  86  86  [illegible]  84  86
 68  71  64  64  61  68  60  65  85  [illegible]  90  82  80  87  87  85
 89  80  89  88  83  61  63  69  73  72  83  84  81  75  91  83
 83  81  73  60  62  75  61  81  81  77  [illegible]  73  77  85  93  87
 88  82  60  60  60  60  60  60  60  [illegible]  60  60  68  54  66  62
 74  69  76  70  61  50  60  62  70  55  54  67  70  60  64  84
 73  80  79  79  78  41  80  86  60  57  60  62  60  63  64  62
 60  67  65  67  65  64  68  81  82  87  73  60  66  61  62  63
 60  62  64  62  61  50  63  62  57  73  91  91  90  93  [illegible]  85
 65  85  90  87  89  86  85  86  84  85  86  85  77  74  [illegible]  87
 84  85  84  85  84  84  84  84  85  87  86  85  84  [illegible]  87  80
 87  86  87  60  63  70  72  61  60  59  62  60  60  60  60  60
 60  60  60  60  60  61  67  60  62  60  60  62  85  81  82  82
 85  60  60  60  60  60  60  60  55  55  59  65  51  62  71  73
 66  67  64  64  62  62  68  76  57  75  72  76  71  59  59  64
 66  60  65  67  60  60  61  66  65  65  52  65  57  60  68  63
 70  81  86  88  89  84  85  79  85  85  89  88  88  87  86  85
 85  86  87  88  87  83  65  82  88  57  60  60  60  60  81  85
 85  86  80  62  60  62  86  91  92  92  90  91  88  90  84  87
 90  85  91  87  85  85  85  82  85  87  85  85  83  85  85  85
 79  85  84  85  88  80  63  85  60  50  60  72  63  60  60  62
 63  60  70  70  68  65  60  63  63  53  68  69  65  62  67  63
 63  65  62  62  63  60  60  66  66  70  54  62  60  60  60  65
 85  65  80  90  60  63  64  85  85  86  85  85  82  85  85  85
 85  65  82  86  85  87  84  87  83  84  84  86  82  62  60  60
 60  60  60  60  71  60  60  60  60  50  60  60  60  62  60  60
 66  60  60  60  60  60  60  60  60  50  60  60  50  60  60  62
 89  88  89  89  89  89  87  85  77  50  50  60  52  60  61  60
*EOF



ENTER LOG DATE (DD/MM/YR) : 28/06/79
ENTER SITE CODE (5 CHARS) : PILEA

ENTER USER CODE (4 CHARS) : 0745
 ENTER JOB CODE (3 CHARS) : 170



   DATA LOGGED :28 JUNE 1979              DATA ANALYZED : 28  AUG 1979
        LOGGER : DB-301/26                    SITE CODE : PILEA
 SERIAL NUMBER : 1216                          JOB CODE : 170
      BASELINE : 60 DB                        USER CODE : 0745
 DYNAMIC RANGE : 64 DB                        THRESHOLD : 60 DB
.SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                 STANDBY TIME =   0: 1:17

          TIME HISTORY ANALYSIS

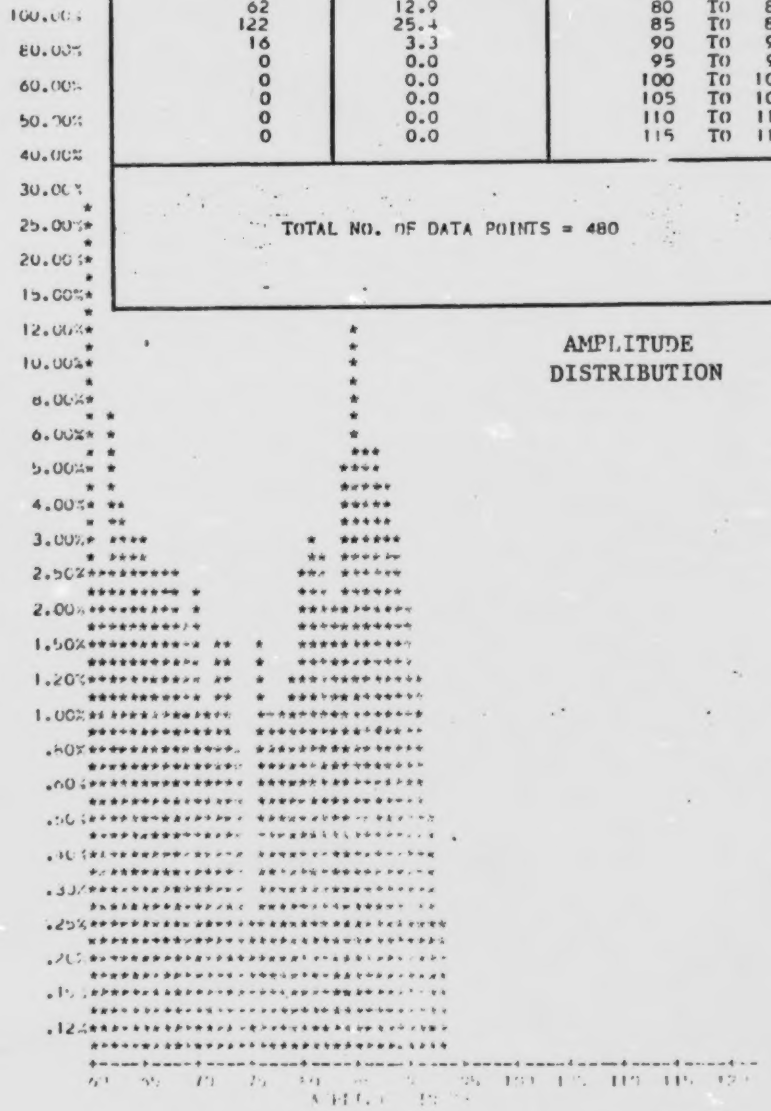
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME         LOSHA                       [illegible]
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      80.2      80.2            3.21        3.21
   2      80.2      80.2            3.19        6.40
   3      79.2      79.2            2.78        7.19
   4      81.4      80.3            3.[illegible]       11.01
   5      76.1      79.6            1.[illegible]       1[illegible]
   6      [illegible]      [illegible]            [illegible]       21.[illegible]
   7      77.2      [illegible]            2.1[illegible]       2[illegible]
   8      78.4      79.4            2.4[illegible]       25.26
MIN. COMP. =  60 DB                 MAX. COMP. =  93 DB
ARITH. [illegible] MEAN = [illegible]
STD. DEVIATION =  11 [illegible]
VARIANCE [illegible]
```

⑦

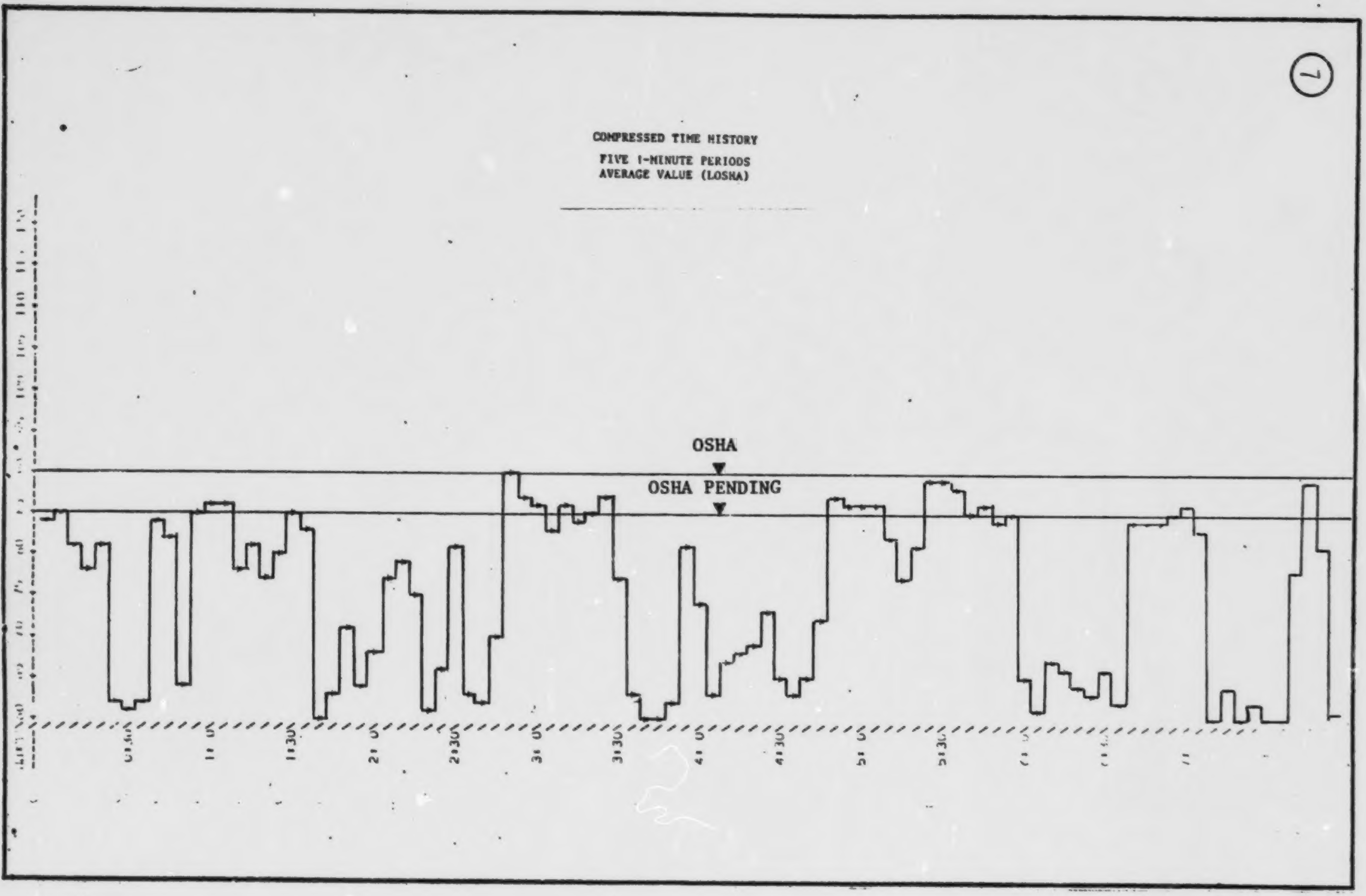
FREQU[illegible] DISTRIBUTION		
FREQUEN[illegible]		GROU[illegible]
NUMBER	PER CENT	
182	37.9	60 TO 64
50	10.4	65 TO 69
28	5.8	70 TO 74
20	4.2	75 TO 79
62	12.9	80 TO 84
122	25.4	85 TO 89
16	3.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

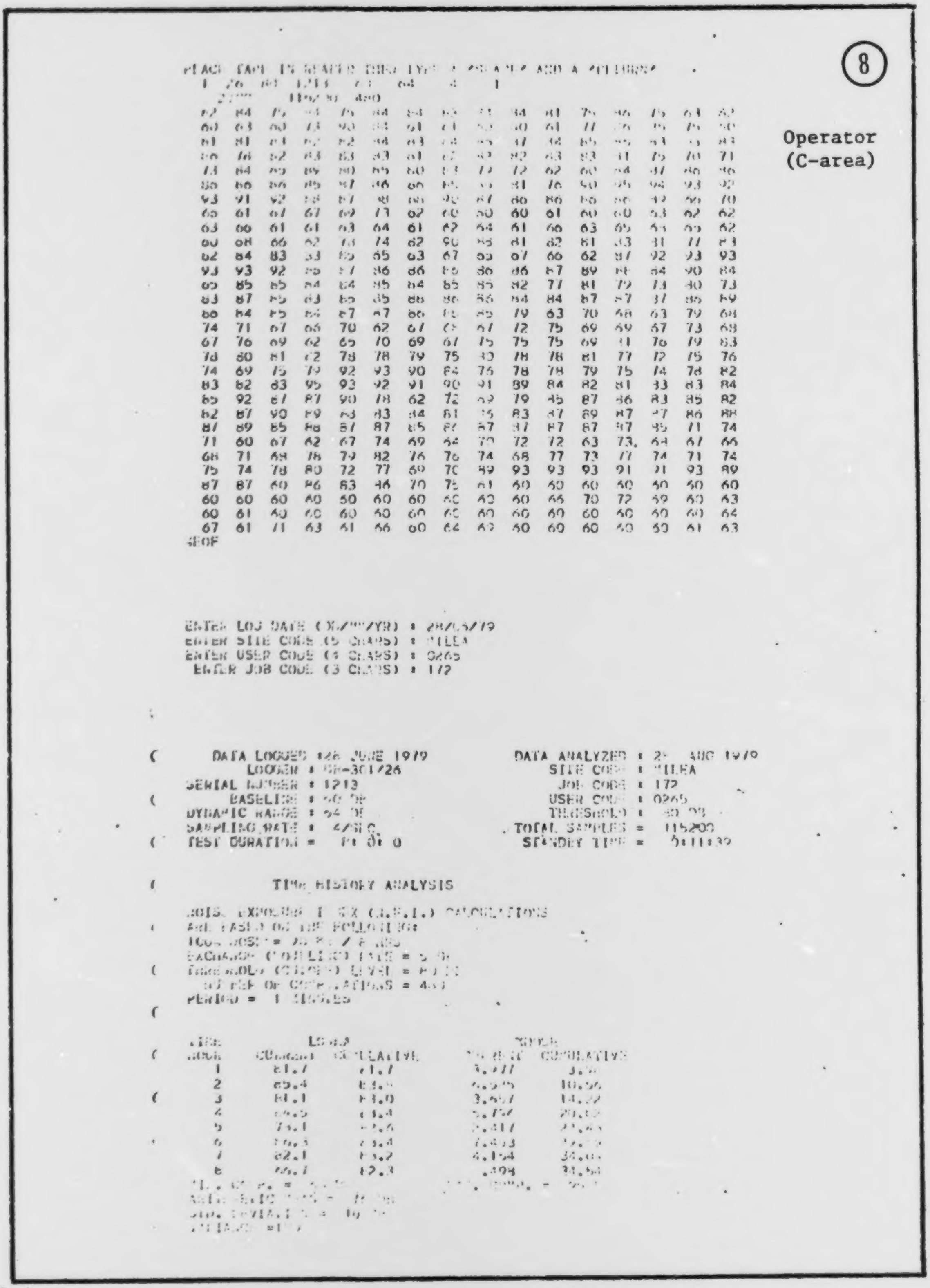
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE
DISTRIBUTION

Number of computations = 480


7
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
110
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30



⑧

Operator
(C-area)

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A RETURN
 1  26  [illegible]  1213  [illegible]  64   4   1
   [illegible]   1152 80  480
 82  84  75  [illegible]  75  84  84  85  [illegible]  84  81  75  86  75  63  82
 60  63  60  73  90  [illegible]  61  61  [illegible]  60  61  77  76  75  75  50
 81  81  83  82  82  84  83  [illegible]  85  47  48  85  85  83  [illegible]  83
 80  76  82  83  83  83  61  62  82  82  83  83  81  75  70  71
 73  84  85  89  80  85  80  83  72  72  62  60  84  87  86  86
 80  66  66  85  87  86  60  85  [illegible]  81  76  50  95  94  93  92
 93  91  92  [illegible]  87  [illegible]  60  92  87  80  86  86  86  82  86  70
 65  61  67  67  69  73  62  60  50  60  61  60  60  53  62  62
 63  66  61  61  63  64  61  62  64  61  66  63  65  55  55  62
 60  68  66  62  73  74  82  90  85  81  82  81  83  81  77  83
 62  84  83  83  85  65  63  67  65  67  66  62  87  92  93  93
 93  93  92  85  87  86  86  85  86  86  87  89  88  84  90  84
 65  85  85  84  84  85  84  85  85  82  77  81  79  73  80  73
 83  87  85  83  85  85  86  86  86  84  84  87  87  87  86  89
 60  84  85  84  87  87  86  85  85  79  63  70  68  63  79  68
 74  71  67  66  70  62  67  65  67  72  75  69  69  67  73  69
 67  76  69  62  65  70  69  67  75  75  75  69  81  76  79  83
 78  80  81  82  78  78  79  75  80  78  78  81  77  72  75  76
 74  69  75  79  92  93  90  84  75  78  78  79  75  74  78  82
 83  82  83  95  93  92  91  90  91  89  84  82  81  83  83  84
 65  92  87  87  90  78  62  72  69  79  85  87  86  83  85  82
 82  87  90  89  83  83  84  81  85  83  87  89  87  87  86  88
 87  89  85  88  87  87  85  87  87  87  87  87  87  85  71  74
 71  60  67  62  67  74  69  64  70  72  72  63  73.  64  67  66
 68  71  68  78  79  82  76  76  74  68  77  73  77  74  71  74
 75  74  78  80  72  77  69  70  89  93  93  93  91  91  93  89
 87  87  60  86  83  86  70  75  61  60  60  60  60  60  60  60
 60  60  60  60  50  60  60  60  60  60  66  70  72  59  60  63
 60  61  60  60  60  60  60  65  60  60  60  60  60  60  60  64
 67  61  71  63  61  66  60  64  62  60  60  60  60  50  61  63
$EOF



ENTER LOG DATE (DY/MO/YR) : 28/6/79
ENTER SITE CODE (5 CHARS) : MILEA
ENTER USER CODE (4 CHARS) : 0265
 ENTER JOB CODE (3 CHARS) : 172



(     DATA LOGGED :28 JUNE 1979           DATA ANALYZED : 2[illegible]  AUG 1979
           LOGGER : GR-301726                     SITE CODE : MILEA
    SERIAL NUMBER : 1213                           JOB CODE : 172
(        BASELINE : 60 DB                         USER CODE : 0265
    DYNAMIC RANGE : 64 DB                         THRESHOLD : 80 DB
    SAMPLING RATE : 4/SEC.                    . TOTAL SAMPLES =  115200
(   TEST DURATION =   8: 0: 0                  STANDBY TIME =   0:11:32

(             TIME HISTORY ANALYSIS

    NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
    ARE BASED ON THE FOLLOWING:
    100% DOSE = 90 DB / 8 HRS
    EXCHANGE (DOUBLING) RATE = 5 DB
(   THRESHOLD (CUTOFF) LEVEL = 80 DB
     NUMBER OF CALCULATIONS = 480
    PERIOD =  1 MINUTES
(

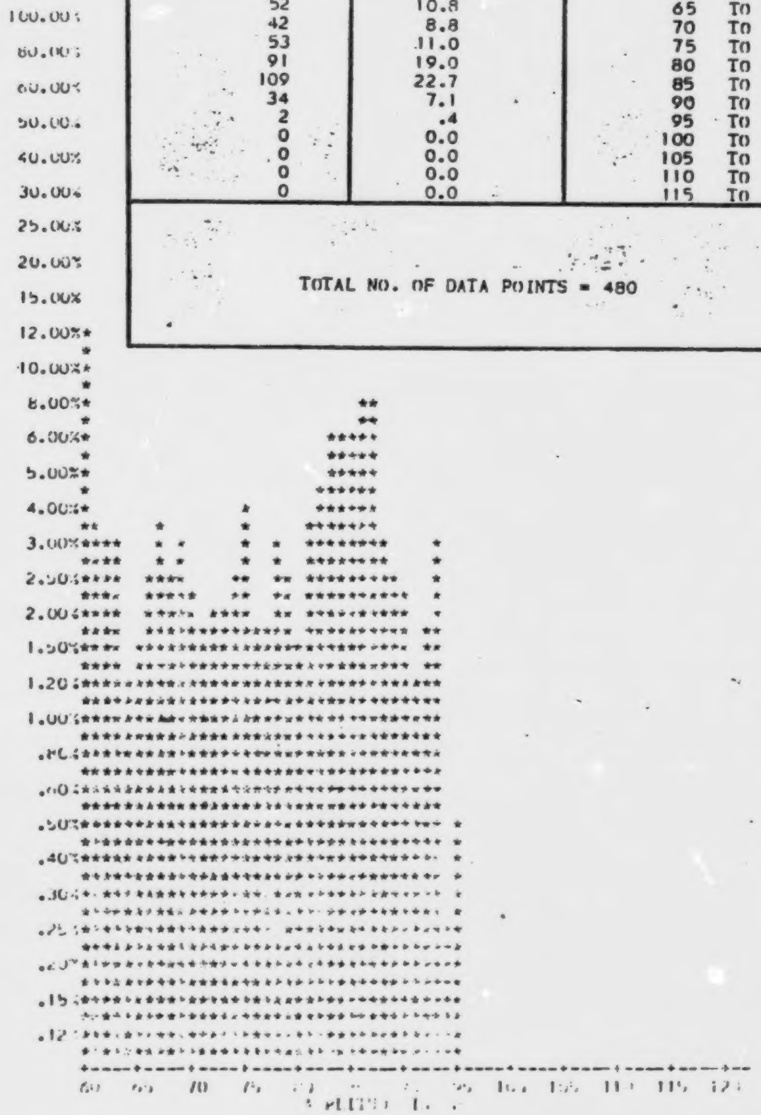
    TIME          LOSHA                      DOSE
(   HOUR    CURRENT   CUMULATIVE     CURRENT   CUMULATIVE
      1       81.7       81.7          3.577        3.5[illegible]
      2       85.4       83.[illegible]          6.9[illegible]5       10.56
(     3       81.1       83.0          3.657       14.22
      4       [illegible]       83.4          5.757       20.[illegible]
      5       79.1       82.6          2.417       2[illegible].[illegible]
      6       [illegible]       83.4          7.433       [illegible]
      7       82.1       83.2          4.154       34.[illegible]
      8       [illegible]       82.3           .498       34.54
    [illegible]                                [illegible]
    [illegible]
    STD. DEVIATION = [illegible]
    [illegible]
```

⑧

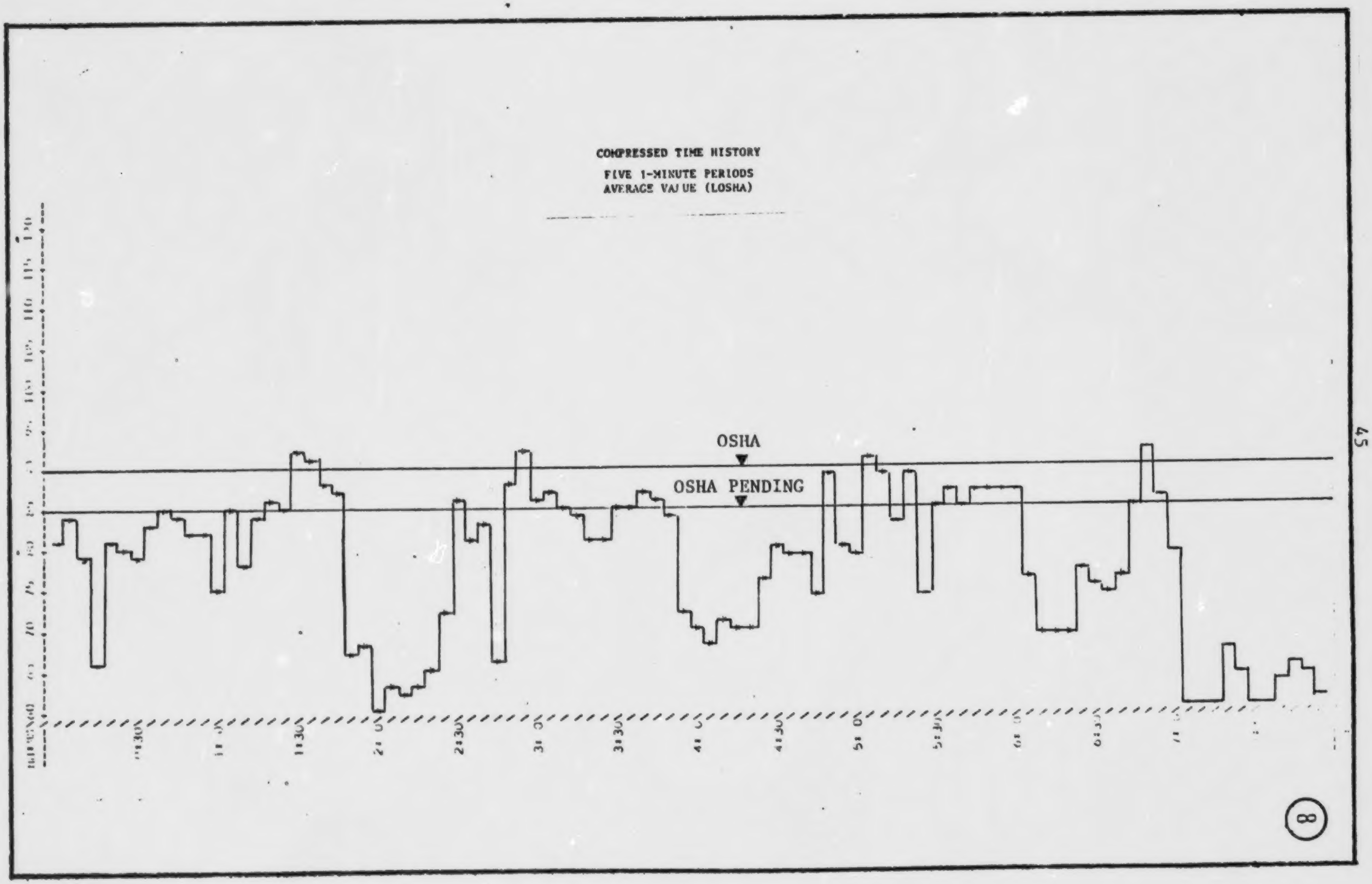
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
97	20.2	60 TO 64
52	10.8	65 TO 69
42	8.8	70 TO 74
53	11.0	75 TO 79
91	19.0	80 TO 84
109	22.7	85 TO 89
34	7.1	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
6:30
7:00

⑧

⑨

Operator (C-area)

```
[illegible]
   I   26   60   1224    64    64    4    1
       13        115200  480
   67  85  83  83  81  70  84  86  67  61  60  60  61  64  82  79
   64  83  71  91  87  89  86  79  85  81  73  74  76  73  75  83
   61  79  83  81  84  83  82  81  81  81  6.  60  83  82  82  84
   75  68  63  60  60  64  80  81  81  80  75  77  76  79  80  79
   61  83  79  76  80  69  60  61  60  61  69  86  91  93  94  89
   83  69  72  65  87  87  87  87  85  85  88   8  86  86  87  85
   67  83  89  89  89  88  89  90  89  89  89  89  88  88  87  87
   60  68  69  60  70  73  66  73  65  63  63  65  74  76  74  70
   69  69  65  66  63  72  72  67  68  57  76  75  63  87  87  85
   77  66  70  69  70  75  61  60  60  50  43  86  83  71  60  65
   60  68  69  70  75  75  84  85  90  83  86  87  87  83  79  80
   89  88  89  89  90  92  91  86  89  84  88  60  88  90  88  89
   91  88  88  79  80  88  81  77  71  71  76  85  90  93  91  86
   65  86  86  85  86  85  85  67  85  81  86  86  86  86  86  86
   65  86  85  85  86  89  66  82  86  90  90  89  89  91  90  91
   84  78  75  64  63  63  65  67  71  71  69  66  63  62  61  66
   61  60  62  61  61  66  62  61  63  62  64  62  60  66  62  60
   60  63  61  62  60  63  62  60  64  61  64  61  61  72  74  65
   64  60  64  72  61  63  62  60  50  62  62  63  60  60  60  60
   60  60  60  64  73  60  60  60  60  50  60  60  50  66  65  65
   60  60  60  60  60  60  63  63  50  60  60  60  72  60  61  60
   61  74  75  71  60  60  63  67  66  54  69  65  56  60  60  61
   61  60  68  66  65  82  87  85  84  86  85  86  89  90  93  93
   76  60  61  65  60  63  60  60  73  69  64  70  70  70  74  79
   72  67  65  60  60  60  67  75  88  86  86  87  86  89  87  83
   65  90  84  84  85  85  85  83  76  71  76  75  77  74  74  73
   78  80  77  73  73  88  90  88  75  75  73  76  74  63  75  82
   76  88  86  86  83  83  83  81  75  80  84  87  88  87  86  86
   66  85  65  83  88  83  60  60  60  70  89  86  60  60  72  74
   61  64  71  71  69  77  61  82  83  83  81  67  60  67  75  75
%EOF



ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILEA
ENTER USER CODE (4 CHARS) : 0265
 ENTER JOB CODE (3 CHARS) : 172



      DATA LOGGED :29 JUNE 1979                 DATA ANALYZED : 28  AUG 1979
           LOGGER : DB-301/26                       SITE CODE : MILEA
    SERIAL NUMBER : 1224                             JOB CODE : 172
         BASELINE : 60 DB                           USER CODE : 0265
    DYNAMIC RANGE : 64 DB                           THRESHOLD : 80 DB
    SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  115200
    TEST DURATION =   8: 0: 0                    STANDBY TIME =   0: 0: 8

              TIME HISTORY ANALYSIS

    NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
    ARE BASED ON THE FOLLOWING:
    100% DOSE = 90 DB / 8 HRS
    EXCHANGE (DOUBLING) RATE = 5 DB
    THRESHOLD (CUTOFF) LEVEL = 80 DB
      NUMBER OF COMPUTATIONS = 480
    PERIOD =  1 MINUTES

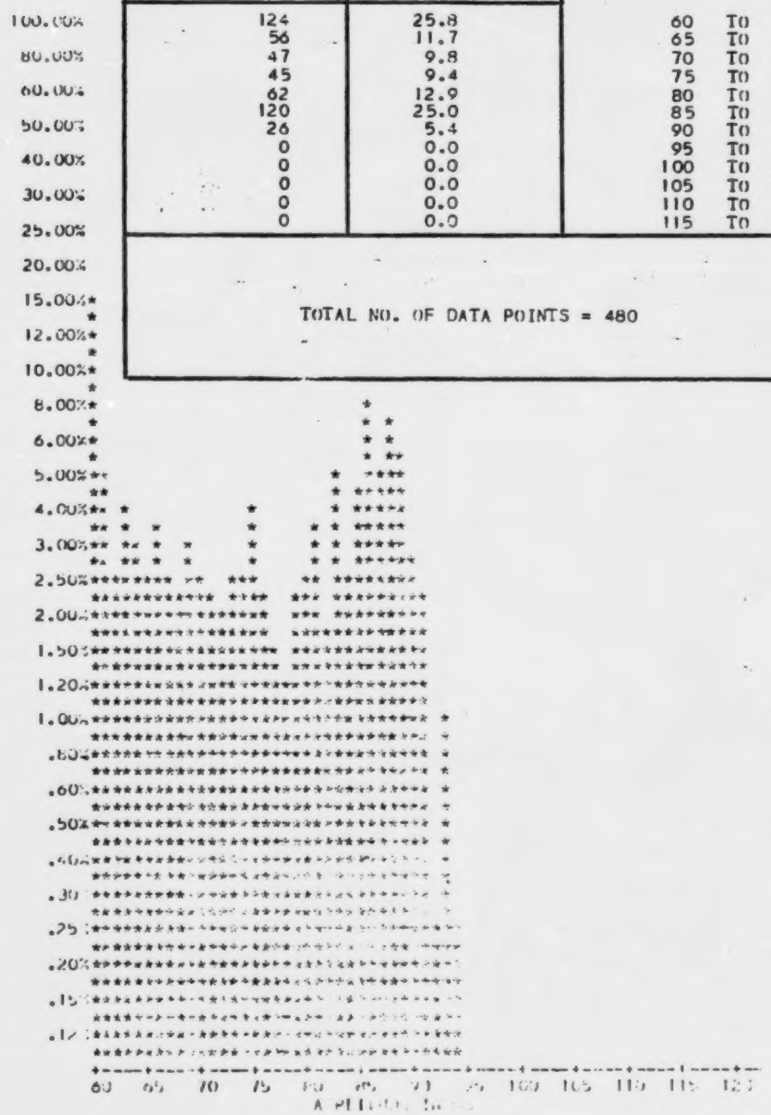

    TIME          LOSHA                         DOSE
    HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
      1        81.4       81.4              3.7??       3.7?
      2        85.2       83.5              6.374      10.4?
      3        80.0       82.5              3.117      13.2?
      4        87.4       84.1              8.786      22.??
      5        66.8       82.6               .594      22.5?
      6        68.6       81.5               .643      23.14
      7        81.?       81.4              4.017      27.16
      8        81.4       81.5              3.7??      31.??
    MIN. COMP. =  60 DB                   MAX. COMP. =  [illegible]
    ARITHMETIC MEAN =  75.[illegible]
    STD. DEVIATION =  11.[illegible]
    VARIANCE =121.[illegible]
```

⑨

AMPLITUDE DISTRIBUTION

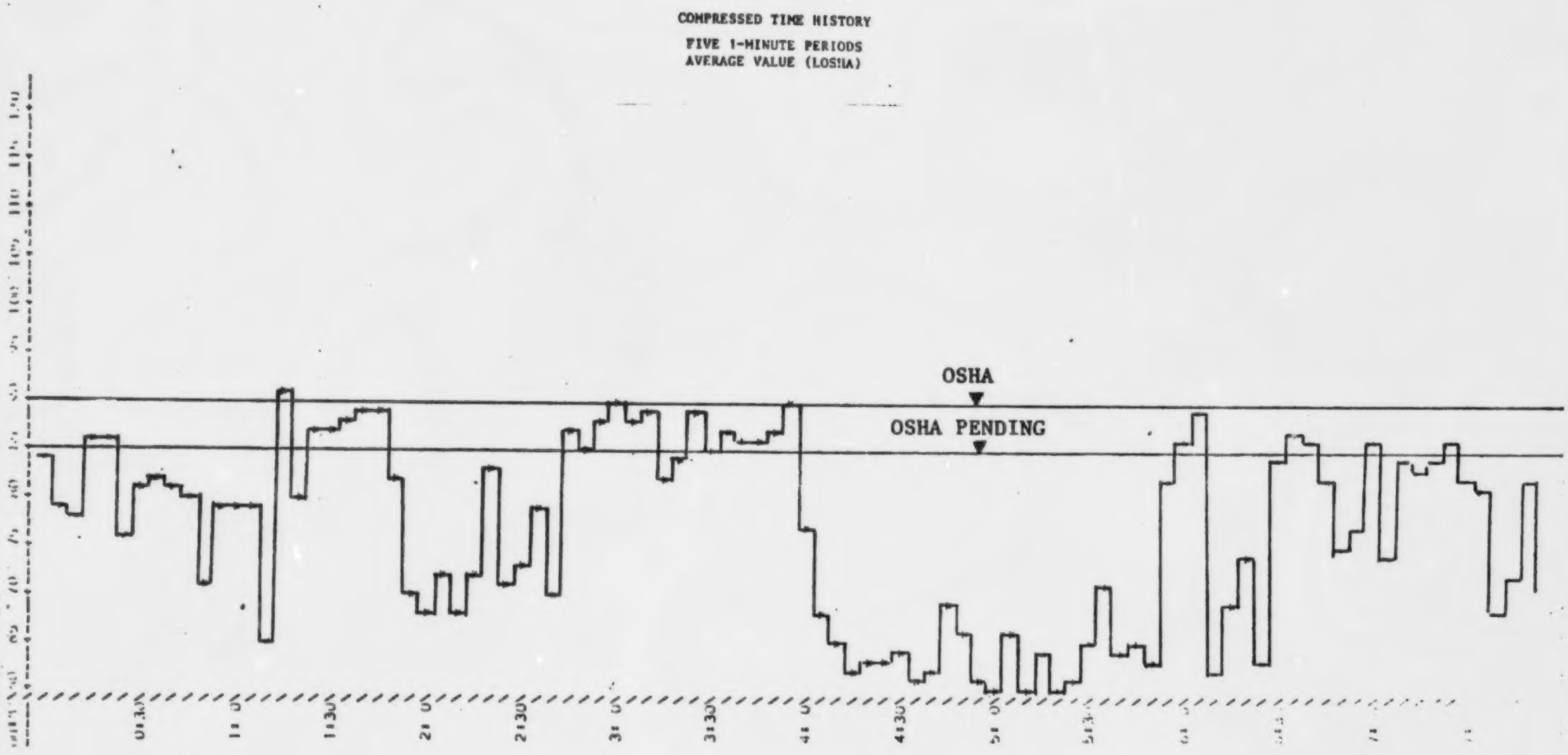
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
124	25.8	60 TO 64
56	11.7	65 TO 69
47	9.8	70 TO 74
45	9.4	75 TO 79
62	12.9	80 TO 84
120	25.0	85 TO 89
26	5.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



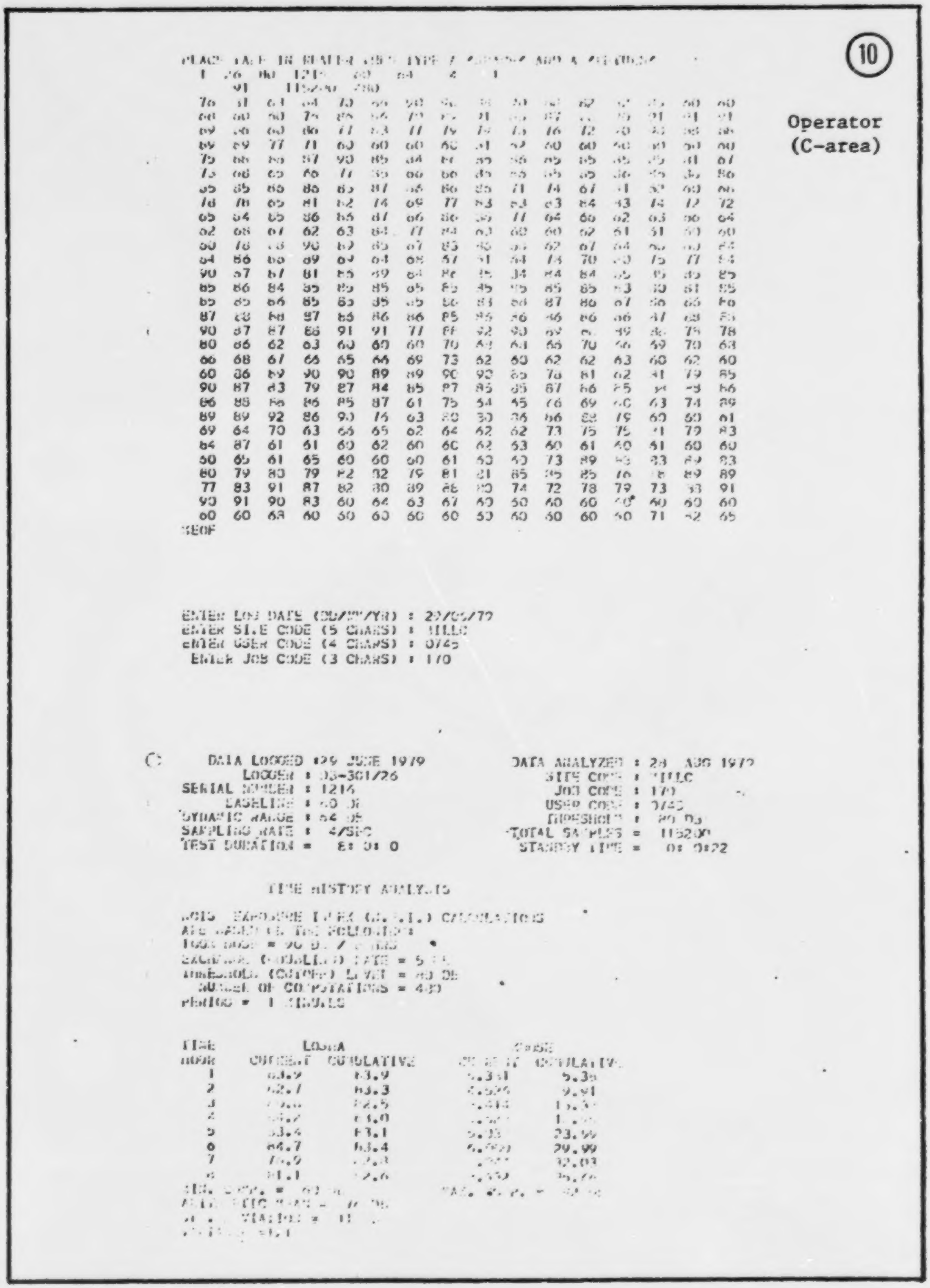
Number of computations = 480

⑨


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0

⑩

Operator (C-area)



```
PLACE TAPE IN READER [illegible] TYPE / [illegible] AND A [illegible]
  1  26  80  1214   60   64    4    1
      91      115200  230
  76  51  61  64  75  [illegible]  90  [illegible]  [illegible]  50  [illegible]  62  [illegible]  [illegible]  60  60
  68  60  60  75  85  66  79  [illegible]  91  [illegible]  87  [illegible]  [illegible]  91  91  91
  69  50  60  80  77  83  77  79  79  75  76  72  60  [illegible]  88  86
  69  59  77  71  60  60  60  60  61  62  60  60  60  60  50  60
  75  88  80  87  90  85  84  86  [illegible]  56  85  85  [illegible]  [illegible]  41  67
  75  68  65  60  71  [illegible]  66  60  85  [illegible]  [illegible]  65  [illegible]  [illegible]  [illegible]  80
  55  85  85  86  85  87  68  80  85  71  74  67  41  [illegible]  60  60
  78  78  65  81  82  74  69  77  83  83  63  84  43  74  72  72
  65  64  65  86  85  87  66  86  [illegible]  77  64  60  62  63  90  64
  62  68  61  62  63  84  77  84  63  60  60  62  61  51  60  60
  60  78  [illegible]  90  82  85  67  85  [illegible]  [illegible]  62  67  64  [illegible]  [illegible]  84
  64  86  80  89  69  64  68  57  51  54  74  70  [illegible]  75  77  54
  90  57  87  81  85  49  64  86  85  34  84  84  [illegible]  85  85  85
  85  86  84  85  85  85  65  85  45  75  85  85  83  30  61  85
  85  85  86  85  85  35  65  86  83  84  87  80  67  60  65  80
  87  88  84  87  85  86  86  85  85  86  46  86  66  47  83  85
  90  87  87  88  91  91  77  88  92  90  69  [illegible]  49  [illegible]  75  78
  80  86  62  63  60  60  60  70  69  64  66  70  66  59  70  63
  66  68  67  66  65  66  69  73  62  60  62  62  63  60  62  60
  60  86  69  90  90  89  89  90  92  85  78  81  62  41  79  85
  90  87  83  79  87  84  85  87  85  85  87  86  85  [illegible]  [illegible]  86
  86  88  86  86  85  87  61  75  54  45  76  69  60  63  74  89
  89  89  92  86  90  76  63  80  30  36  66  88  79  60  60  61
  69  64  70  63  65  65  62  64  62  62  73  75  75  41  72  83
  64  87  61  61  60  62  60  60  62  53  60  61  40  51  60  60
  50  65  61  65  60  60  60  61  50  50  73  89  [illegible]  83  89  83
  80  79  80  79  82  82  79  81  81  85  85  85  76  [illegible]  89  89
  77  83  91  87  82  80  89  86  80  74  72  78  79  73  33  91
  90  91  90  83  60  64  63  67  60  50  60  60  60  60  60  60
  60  60  63  60  50  60  60  60  50  60  60  60  60  71  62  65
:EOF


ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILLC
ENTER USER CODE (4 CHARS) : 0745
 ENTER JOB CODE (3 CHARS) : 170


    DATA LOGGED :29 JUNE 1979            DATA ANALYZED : 28  AUG 1979
         LOGGER : 03-301/26                  SITE CODE : MILLC
  SERIAL NUMBER : 1214                        JOB CODE : 170
       BASELINE : 60 DB                      USER CODE : 0745
  DYNAMIC RANGE : 64 DB                      THRESHOLD : 80 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =    8: 0: 0              STANDBY TIME =   0: 0:22

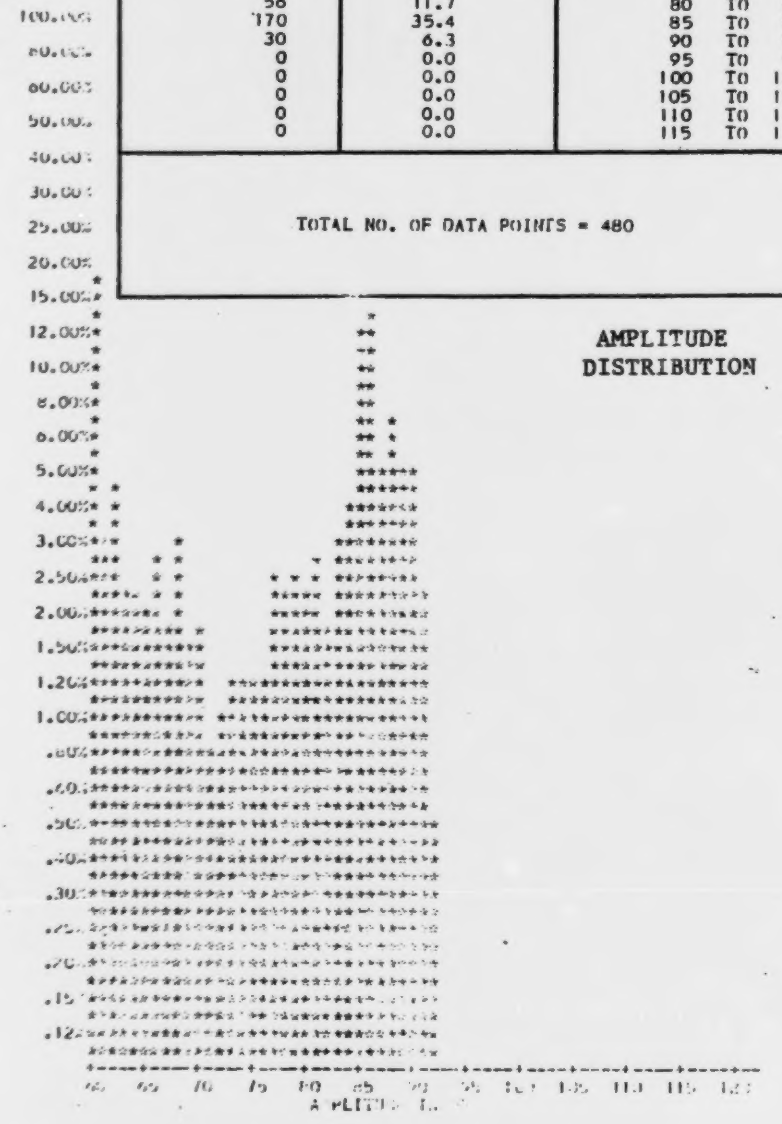
            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD = 1 MINUTES


TIME          LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      63.9       63.9          5.351      5.35
   2      62.7       63.3          4.55[illegible]     9.91
   3      [illegible]       62.5          [illegible]      1[illegible]
   4      [illegible]       64.0          [illegible]      1[illegible]
   5      63.4       63.1          [illegible]      23.[illegible]
   6      64.7       63.4          6.[illegible]      29.99
   7      7[illegible].9       [illegible]          [illegible]      32.03
   8      81.1       [illegible]          [illegible]      [illegible]
[illegible]                      MAX. [illegible] = [illegible]
[illegible] = [illegible]
[illegible] = [illegible]
[illegible]
```

⑩

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
116	24.2	60 TO 64
45	9.4	65 TO 69
24	5.0	70 TO 74
39	8.1	75 TO 79
56	11.7	80 TO 84
170	35.4	85 TO 89
30	6.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		

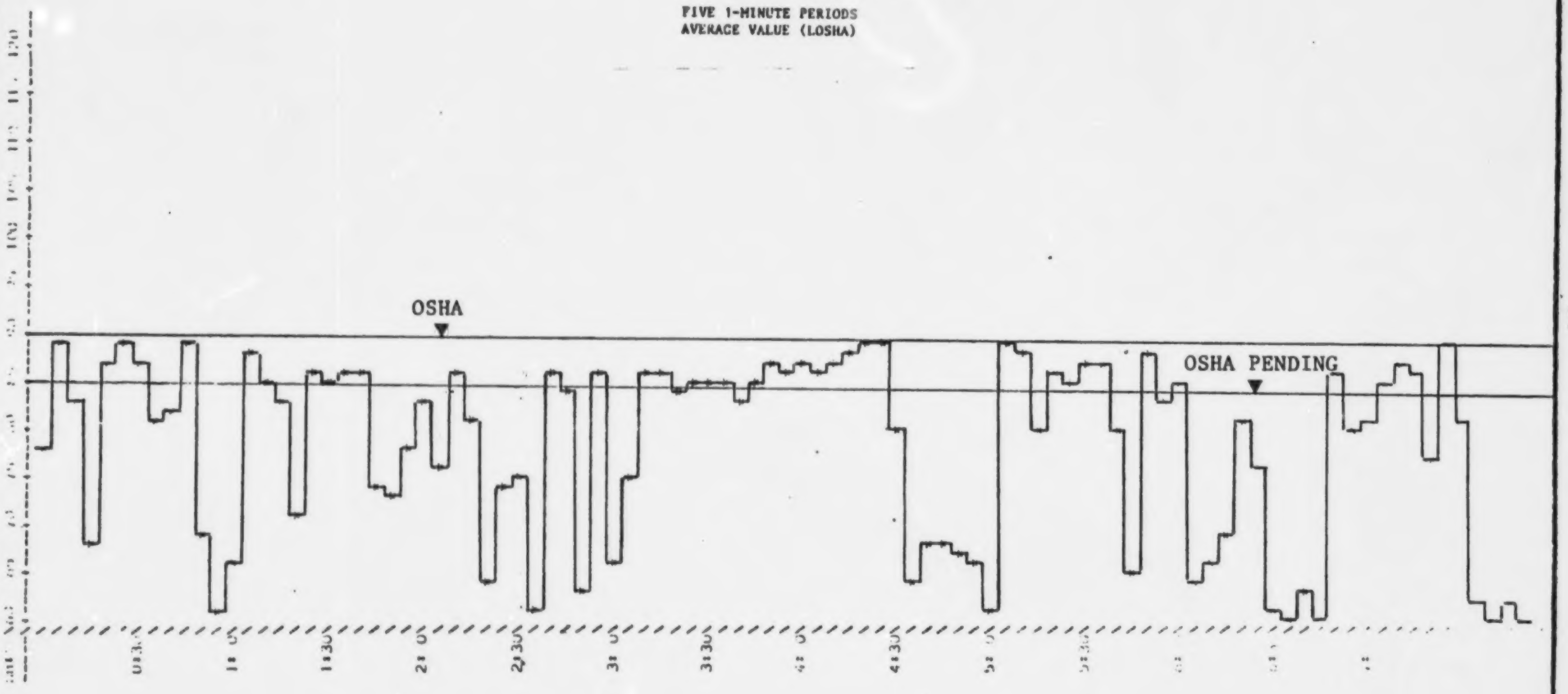


AMPLITUDE DISTRIBUTION

Number of computations = 480

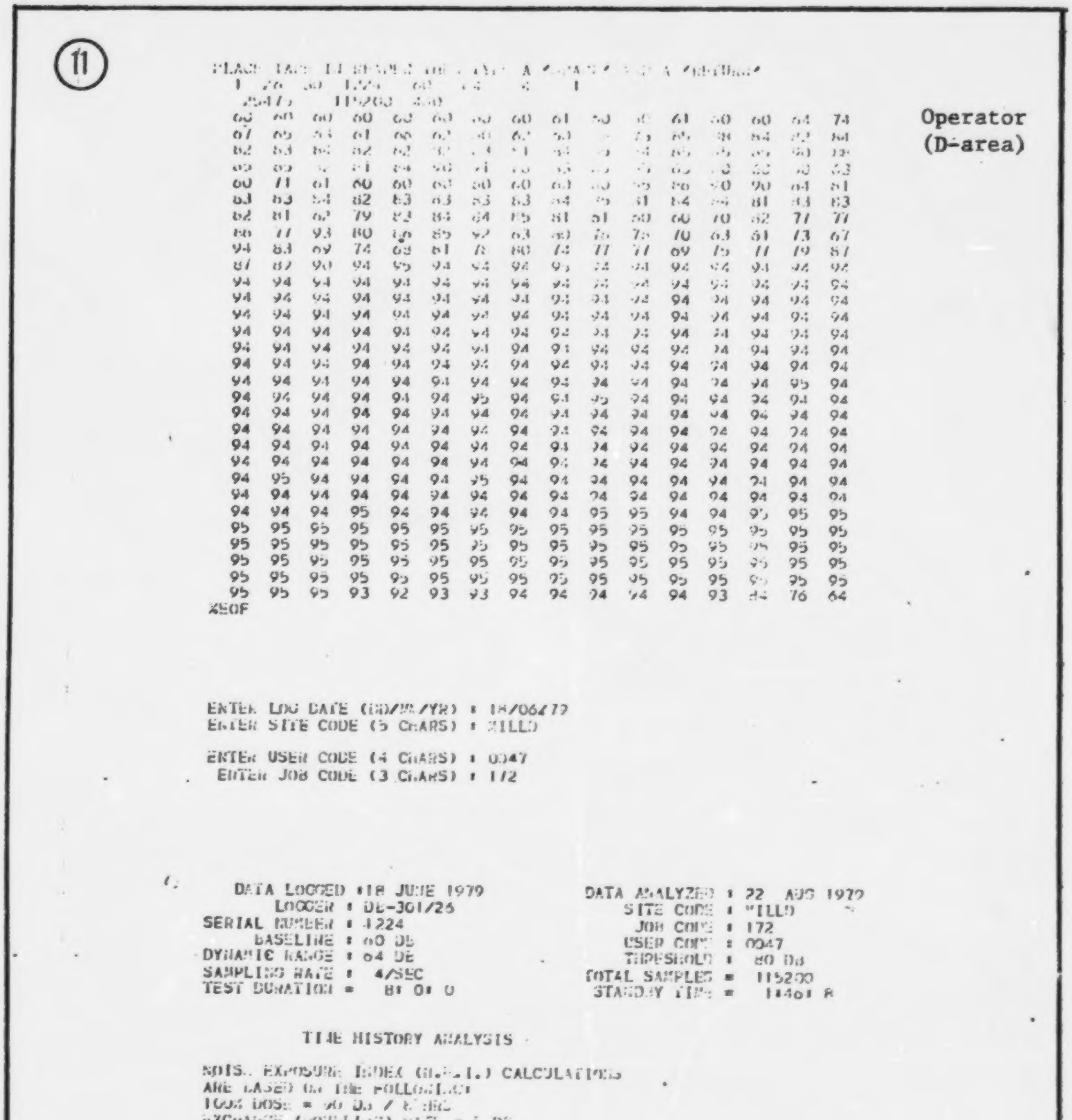
COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑩

**Operator
(D-area)**



⑪

```
PLACE TAPE [illegible]
  1 [illegible]   1
  [illegible]   115200  480
  60 60 60 60 60 60 60 60 61 60 60 61 60 60 64 74
  67 65 [illegible] 61 66 62 [illegible] 62 [illegible] [illegible] [illegible] [illegible] [illegible] 84 [illegible] 84
  62 63 62 82 62 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
  [illegible] [illegible] [illegible] 81 84 90 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 63
  60 71 61 60 60 63 60 60 63 [illegible] [illegible] 80 80 90 64 81
  63 63 64 82 83 63 63 83 64 [illegible] 81 84 [illegible] 81 83 83
  62 81 62 79 82 84 84 85 81 51 50 60 70 62 71 77
  80 77 93 80 [illegible] 85 92 63 80 76 75 70 63 61 73 67
  94 83 69 74 63 81 78 80 74 77 77 69 75 77 79 87
  87 87 90 94 95 94 94 94 95 94 94 94 94 94 94 92
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 95 94
  94 94 94 94 94 94 95 94 94 95 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 95 94 94 94 94 95 94 94 94 94 94 94 94 94 94
  94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94
  94 94 94 95 94 94 94 94 94 95 95 94 94 95 95 95
  95 95 95 95 95 95 95 95 95 95 95 95 95 95 95 95
  95 95 95 95 95 95 95 95 95 95 95 95 95 95 95 95
  95 95 95 95 95 95 95 95 95 95 95 95 95 95 95 95
  95 95 95 95 95 95 95 95 95 95 95 95 95 95 95 95
  95 95 95 93 92 93 93 94 94 94 94 94 93 [illegible] 76 64
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLD

ENTER USER CODE (4 CHARS) : 0047
 ENTER JOB CODE (3 CHARS) : 172

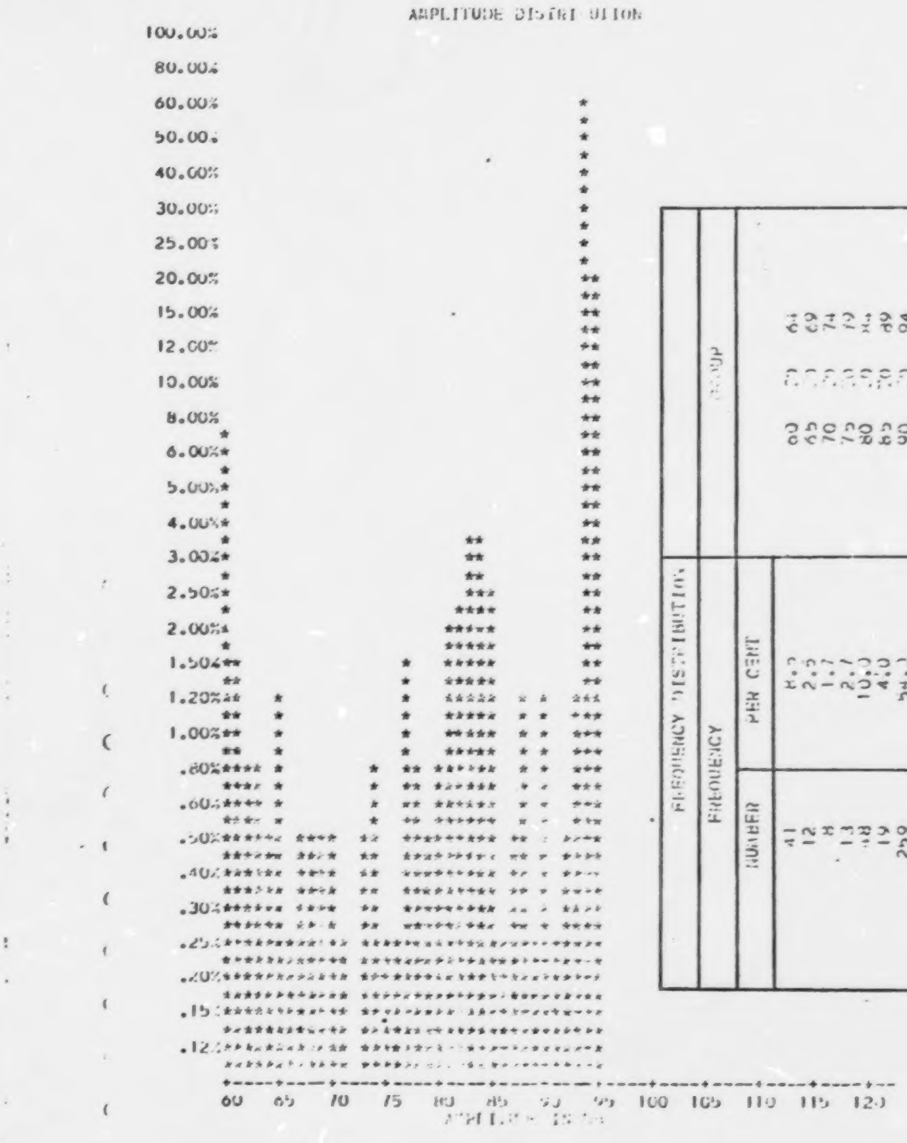

   DATA LOGGED :18 JUNE 1979            DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : MILLD
 SERIAL NUMBER : 1224                        JOB CODE : 172
      BASELINE : 60 DB                      USER CODE : 0047
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   14401 R

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                       DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1       80.5       80.5             3.342      3.34
  2       81.7       81.1             3.979      7.32
  3       90.7       85.8            13.74[illegible]     21.07
  4       94.0       [illegible]            21.7[illegible]     [illegible]
  5       94.1       90.3            21.[illegible]     [illegible]
  6       94.0       91.0            21.37[illegible]     [illegible]
  7       94.5       91.6            23.1[illegible]    109.82
  8       94.4       92.1            23.[illegible]    [illegible]
MIN. COMP. =  60 DB                  MAX. COMP. = [illegible]
ARITHMETIC MEAN = [illegible] DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑪

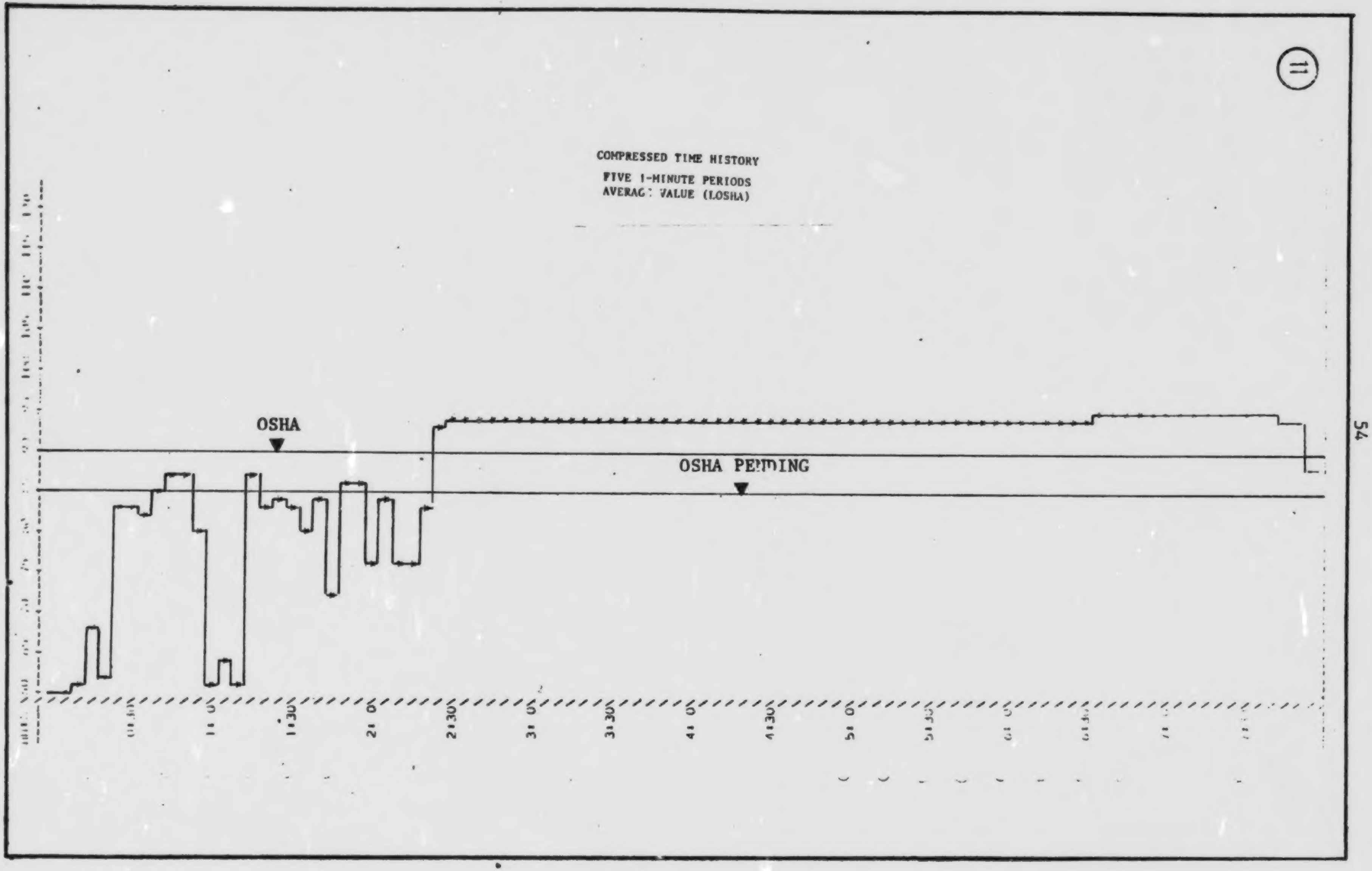


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
41	8.5	60 TO 64
12	2.5	65 TO 69
8	1.7	70 TO 74
13	2.7	75 TO 79
48	10.0	80 TO 84
19	4.0	85 TO 89
259	54.0	90 TO 94
80	16.7	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑪



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAG: VALUE (LOSHA)

⑫

Operator (D-area)

```
PLACE TAPE IN [illegible] THEN TYPE [illegible] AND [illegible]
 1  20  80  1217   60   64    4    1
  13242     110730   461
 [illegible]
 97  97  97  97  97  97  97  97  97  97  97  97  97  97  97  97
 97  96  97  97  97  97  97  97  97  97  97  97  97  97  97  97
 97  97  97  97  97  97  97  97  97  97  97  97  97  97  97  97
 97  97  97  97  97  97  97  97  97  97  97  97  97  97  97  97
 97  97  97  97  97  97  96  97  96  96  96  96  96  95  96  95
 96  96  96  96  96  96  96  96  96  96  96  96  96  96  96  96
 96  96  96  96  96  96  96  96  96  96  96  96  96  96  95  96
 96  96  96  96  96  96  96  96  96  96  96  96  96  95  96  95
 96  96  96  96  96  96  96  96  96  96  97  95  96  97  95  96
 96  97  96  97  97  96  94  94  94  94  93  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  93  94  94  94  93  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  95  94  94  94  95  95  94  94  94  94  94  94  95  95  94
 95  95  94  95  95  95  95  95 . 95  95  95  95  95  95  95  95
 95  94  94  94  94  94  94  94  95  95  94  95  95  95  95  95
 95  94  94  95  95  94  94  94  94  94  94  95  95  94  95  95
 94  94  94  95  94  94  95  95  95  95  95  94  95  95  95  95
 95  94  95  95  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  95  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  93  94  94  94  94  94  94  94  94  94  94  94  94  94  94
 94  94  94  94  94  94  94  94  94  92  94  76  63  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0047
 ENTER JOB CODE (3 CHARS) : 172



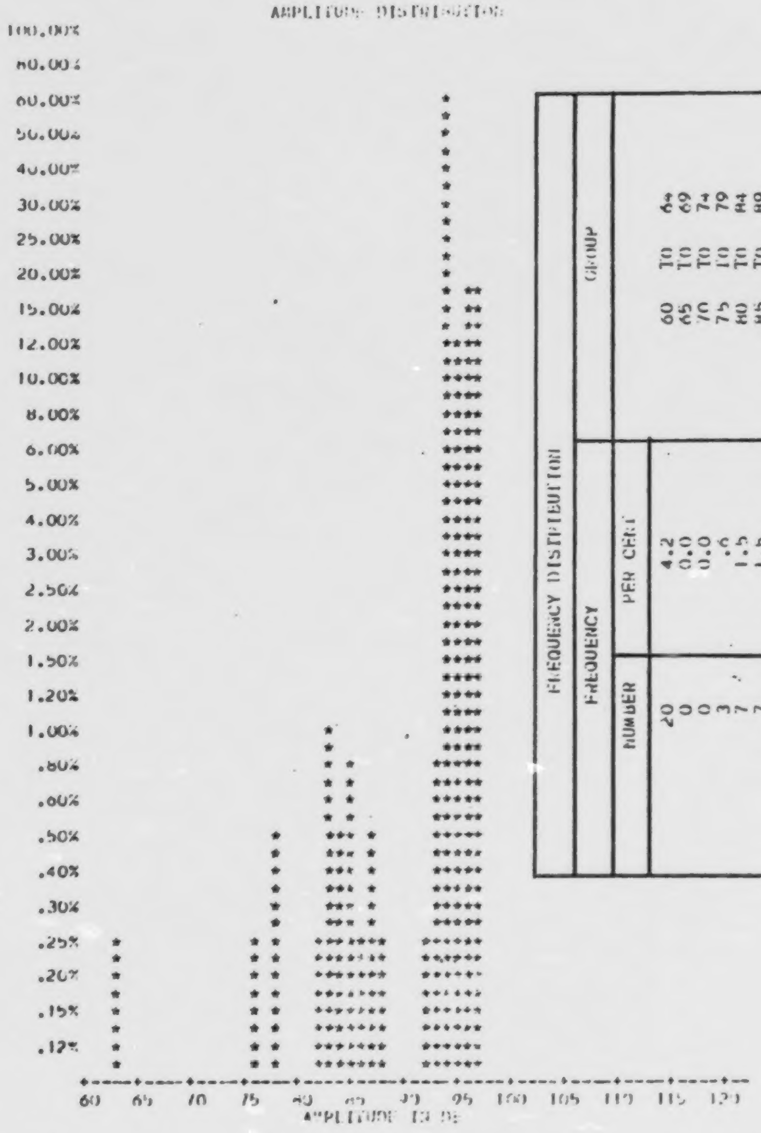
    DATA LOGGED :21 JUNE 1979               DATA ANALYZED : 24  AUG 1979
         LOGGER : DB-301/26                     SITE CODE : MILL+
  SERIAL NUMBER : 1217                           JOB CODE : 172
       BASELINE : 60 DB                         USER CODE : 0047
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  110739
  TEST DURATION =    7:41:22                 STANDBY TIME =    1: 7:40

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 461
PERIOD =  1 MINUTES

TIME          LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT    CUMULATIV
   1      95.2      95.2         [illegible]  25.[illegible]
   2      96.5      95.9         [illegible]  [illegible]
   3      95.7      95.[illegible]  [illegible]  [illegible]
   4      94.[illegible]  [illegible].4  [illegible]  1[illegible]
   5      94.[illegible]  [illegible].2  [illegible]  1[illegible]
   6      94.6      95.1         23.4[illegible]  151.77
   7      94.0      94.9         [illegible]  17[illegible]
   [illegible]  93.[illegible]  94.[illegible]  [illegible]  1[illegible].[illegible]7
[illegible] = 93 DB                [illegible] = [illegible]
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
[illegible] = [illegible]
```

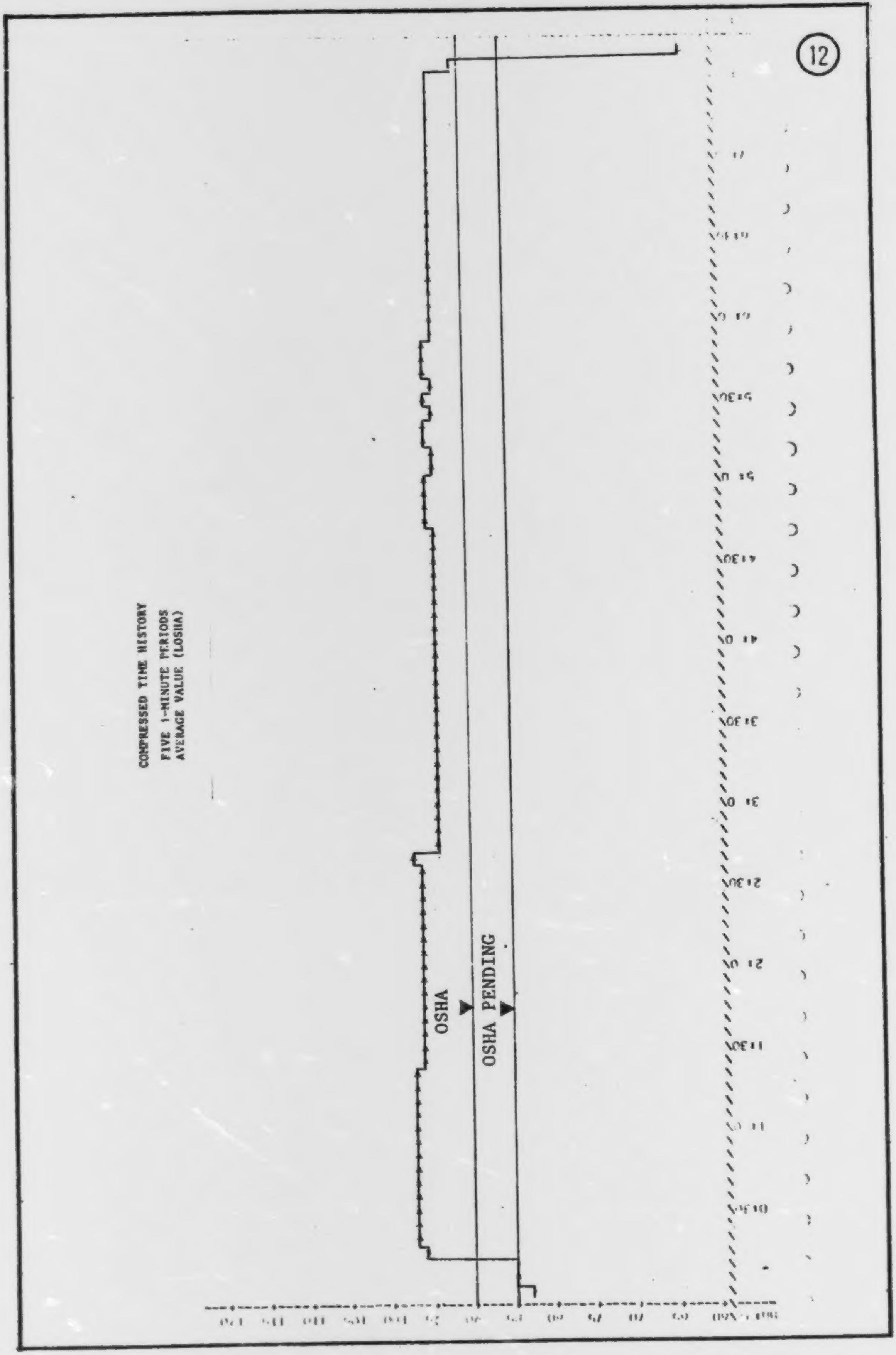
⑫



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
20	4.2	60 TO 64
0	0.0	65 TO 69
0	0.0	70 TO 74
3	.6	75 TO 79
7	1.5	80 TO 84
7	1.5	85 TO 89
244	50.8	90 TO 94
199	41.5	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 461


12
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING

⑬

**Operator
(D-area)**

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]
  1  26  80  1217   60   64     4     1
265411      115200  480
 75  74  62  60  73  80  65  86  85  84  83  84  86  85  84  84
 84  83  82  85  84  84  83  84  83  87  86  85  86  86  86  84
 85  75  84  84  84  85  87  86  85  [illegible]  80  84  86  81  87  89
 89  89  89  89  86  82  83  87  [illegible]  84  87  87  87  85  86  85
 87  80  85  84  84  88  86  85  81  87  86  86  88  87  86  87
 88  68  87  87  85  87  85  85  85  83  85  82  84  83  86  89
 87  63  84  82  82  85  87  87  84  87  87  86  89  86  89  86
 88  87  87  88  84  83  82  85  87  87  86  84  84  84  86  94
 85  83  81  82  82  83  63  84  85  85  85  84  87  82  90  89
 88  87  84  84  87  88  87  86  87  87  87  86  87  86  87  87
 86  80  85  86  86  87  86  87  87  [illegible]  87  86  86  84  84  83
 84  53  81  83  83  83  77  83  84  77  86  84  86  85  84  84
 85  83  83  80  84  86  81  82  82  82  82  83  86  86  87  84
 84  83  60  60  72  84  85  82  82  82  82  83  82  84  83  84
 80  83  84  83  83  84  84  82  82  82  83  84  81  67  60  65
 60  60  76  76  79  81  81  82  81  81  81  83  82  81  81  82
 81  81  81  81  82  80  67  73  70  73  65  63  60  63  71  68
 78  85  84  82  81  81  77  83  81  81  81  80  81  82  82  82
 82  82  82  82  82  82  82  83  81  83  82  83  82  82  82  82
 82  82  82  83  83  86  87  86  85  82  85  82  84  83  82  83
 83  86  84  84  83  84  84 · 83  84  86  84  85  85  84  84  84
 85  83  83  83  84  85  85  84  83  84  85  84  83  83  83  85
 85  85  85  85  87  87  86  85  85  86  86  84  85  87  85  86
 84  83  85  85  84  81  85  85  85  84  83  83  84  84  85  84
 83  83  83  82  83  66  82  82  85  87  86  86  87  85  85  86
 84  86  87  86  87  86  85  85  85  85  82  85  84  85  84  84
 85  84  83  82  82  84  82  84 . 84  84  82  73  64  66  81  82
 82  85  83  83  83  84  84  83  83  83  83  83  84  84  83  83
 85  83  83  84  84  84  84  84  84  84  84  85  81  80  71  63
 62  60  73  73  78  71  67  67  60  73  71  72  64  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLD
ENTER USER CODE (4 CHARS) : 2393
 ENTER JOB CODE (3 CHARS) : 170

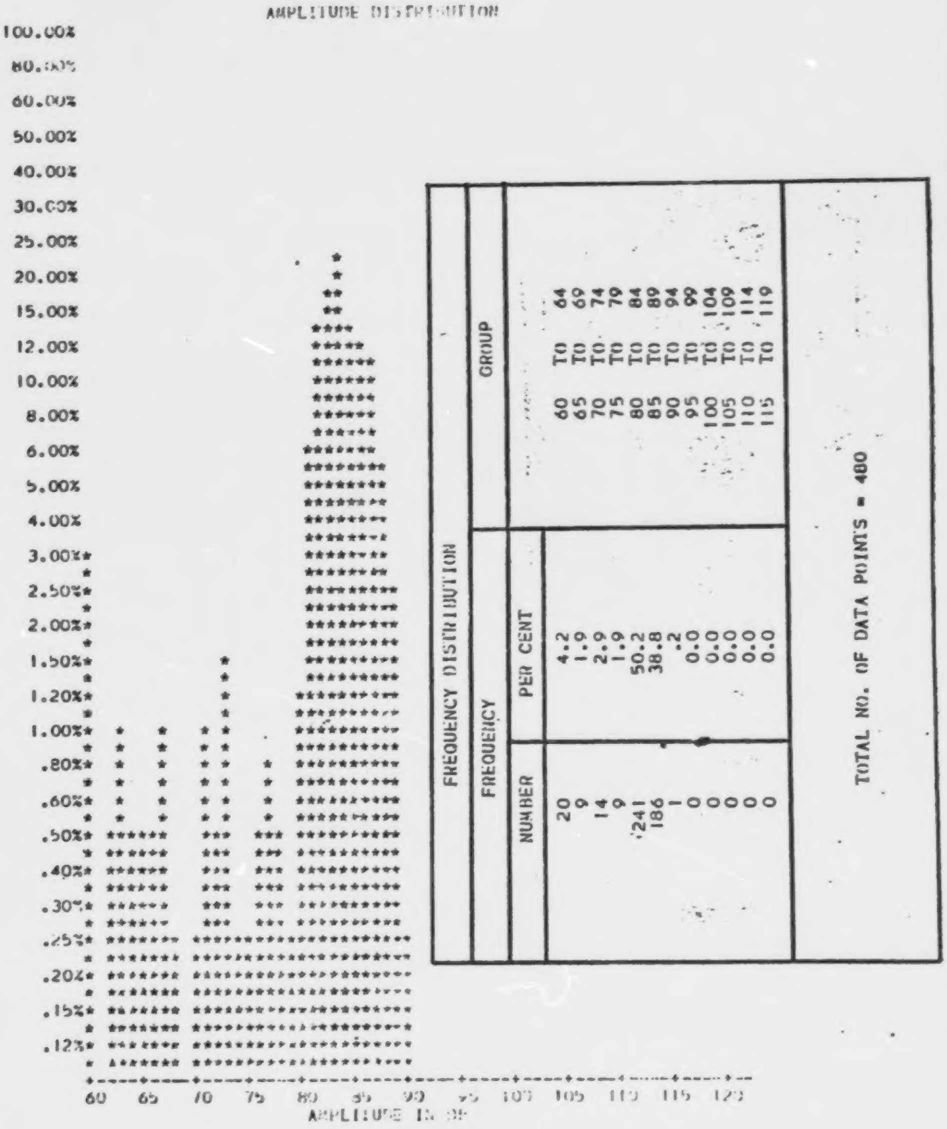

   DATA LOGGED :26 JUNE 1979              DATA ANALYZED : 27  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILLD
 SERIAL NUMBER : 1217                           JOB CODE : 170
      BASELINE : 60 DB                         USER CODE : 2393
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                  STANDBY TIME =  18:38:22.

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                         %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1       85.2      85.2              6.388      6.39
  2       86.2      85.7              7.405     13.79
  3       85.8      85.8              7.021     20.81
  4       82.7      85.1              4.571     25.38
  5       80.1      84.3              3.141     28.52
  6       84.1      84.3              5.569     34.09
  7       84.6      84.4              5.905     40.00
  8       80.8      84.0              3.468     43.47
MIN. COMP. =  60 DB                 MAX. COMP. =  90 DB
ARITHMETIC MEAN =  82 DB
STD. DEVIATION =   6 DB
VARIANCE = 36 DB
```

⑬



FREQUENCY DISTRIBUTION

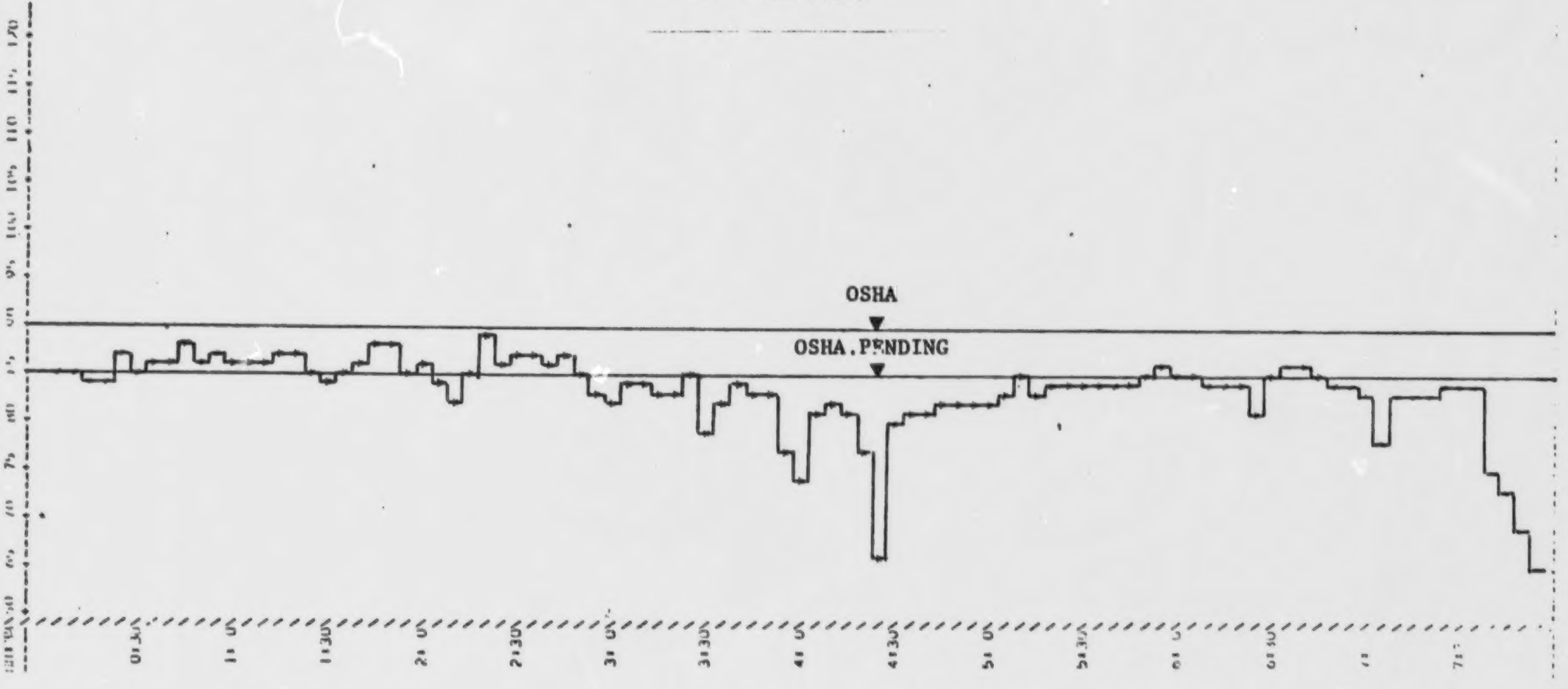
FREQUENCY		GROUP
NUMBER	PER CENT	
20	4.2	60 TO 64
9	1.9	65 TO 69
14	2.9	70 TO 74
9	1.9	75 TO 79
241	50.2	80 TO 84
186	38.8	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

⑬

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑭

Operator (D-area)

```
PLACE TAPE IN [illegible]
  1  26  80  122[illegible]  63  64  [illegible]  1
 [illegible]   114293  476
 82  87  87  85  87  87  86  86  86  81  84  77  79  83  73  85
 74  71  61  79  60  80  73  61  [illegible]  71  78  77  [illegible]  75  62  72
 79  74  76  80  75  83  82  [illegible]  [illegible]  59  76  82  84  82  82  78
 77  79  72  71  73  75  81  81  72  75  88  83  85  [illegible]  [illegible]  [illegible]
 83  74  82  79  81  80  79  81  79  82  88  81  76  77  72  81
 85  84  80  60  63  61  64  73  83  82  74  65  63  64  70  77
 80  62  87  82  83  88  88  87  85  85  85  85  86  85  85  85
 64  68  65  85  85  86  85  85  85  86  85  84  85  86  85  85
 62  73  69  68  67  57  69  78  75  72  73  73  69  67  63  72
 69  72  71  82  76  72  67  85  84  80  87  85  85  84  85  85
 84  84  84  84  84  86  88  85  83  82  87  88  87  85  85  85
 85  80  65  84  84  84  84  82  84  82  83  84  85  85  85  87
 93  95  95  96  93  85  85  83  81  83  83  83  83  84  83  82
 83  83  83  82  83  84  85  81  85  81  60  77  85  84  85  86
 84  84  84  84  85  86  82  82  84  87  86  84  84  83  83  83
 83  83  84  84  84  84  85  84  82  84  85  84  84  77  85  82
 84  84  83  85  86  84  85  82  77  65  81  73  61  60  73  66
 73  67  63  65  73  71  70  81  51  70  73  80  72  51  61  62
 60  64  63  60  74  64  65  70  66  67  69  65  74  71  74  71
 68  63  70  75  70  71  73  78  74  79  80  85  85  85  74  80
 60  73  76  79  76  69  64  70  75  73  78  72  70  75  72  68
 74  74  73  79  79  73  64  77  77  72  81  82  81  53  80  73
 68  74  86  81  77  67  81  76  80  59  75  81  74  75  67  81
 80  78  69  71  74  77  71  72  71  71  66  73  73  82  83  73
 64  82  66  62  60  73  69  67  70  71  61  64  58  62  51  79
 74  70  63  68  64  77  72  78  71  75  60  67  61  75  59  68
 71  72  65  64  69  81  80  85  83  82  79  79  83  86  85  82
 77  77  79  76  74  75  74  76  75  57  74  80  81  80  80  75
 75  67  77  72  75  78  76  79  81  79  76  80  69  67  66  73
 73  76  76  80  81  81  83  85  82  80  80  80  60  60  60  60
4EOF


ENTER LOG DATE (DD/MM/YR) : 26/06/79

ENTER SITE CODE (5 CHARS) : TILL+
ENTER USER CODE (4 CHARS) : 0952

 ENTER JOB CODE (3 CHARS) : 176



    DATA LOGGED :26 JUNE 1979             DATA ANALYZED : 28  AUG 1979
         LOGGER : DR-301/26                    SITE CODE : TILL+
  SERIAL NUMBER : 1220                          JOB CODE : 176
       BASELINE : 50 DB                        USER CODE : 0952
  DYNAMIC RANGE : 64 DB                        THRESHOLD : 80 DB
  SAMPLING RATE : 4/SEC                    TOTAL SAMPLES =  114293
  TEST DURATION =    7:56:13                STANDBY TIME =  21: 7: 5

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = [illegible]
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF CALCULATIONS = 476
PERIOD =  1 HOURS

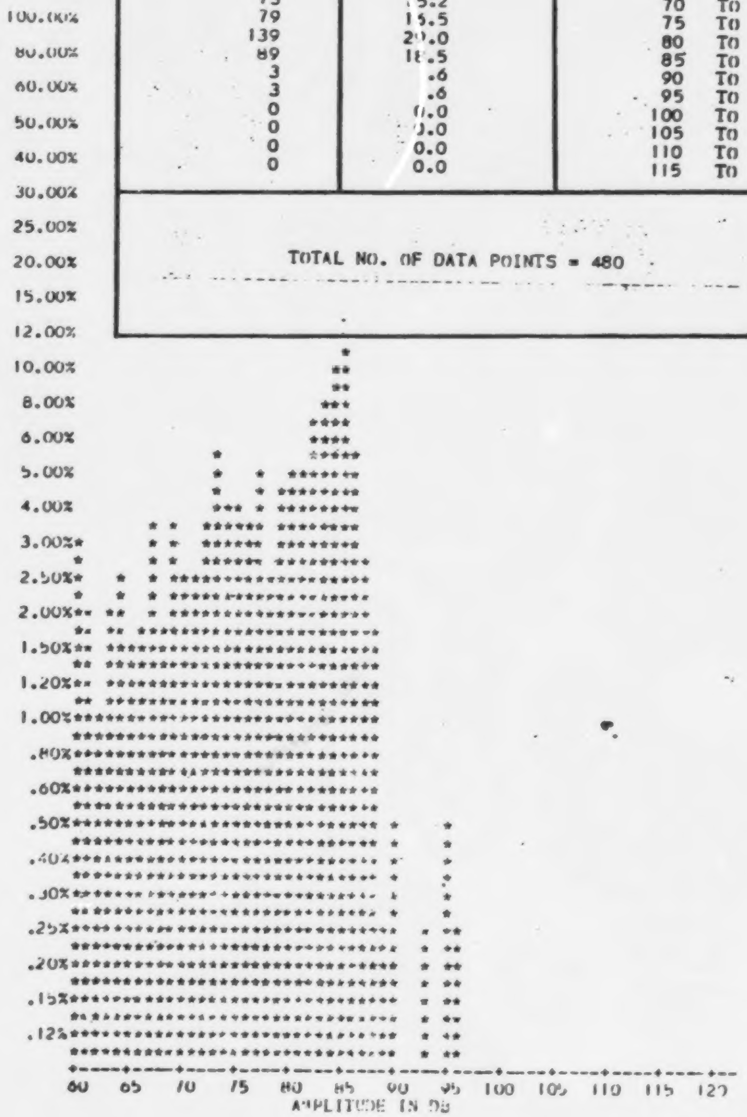
TIME          LOSHA                     DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1      80.3      80.3            3.23%      3.24
   2      82.6      81.5           [illegible]      7.72
   3     [illegible]      81.8           [illegible]     11.[illegible]
   4      85.6      82.9            6.7[illegible]     16.70
   5      79.[illegible]      82.3           [illegible]     21.54
   6     [illegible]      81.7           [illegible]     [illegible]
   7      74.1      80.9            1.[illegible]     24.54
   8      75.8      80.7           [illegible]     27.40
MIN. COMP. = [illegible]          MAX. COMP. = [illegible]
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

⑭

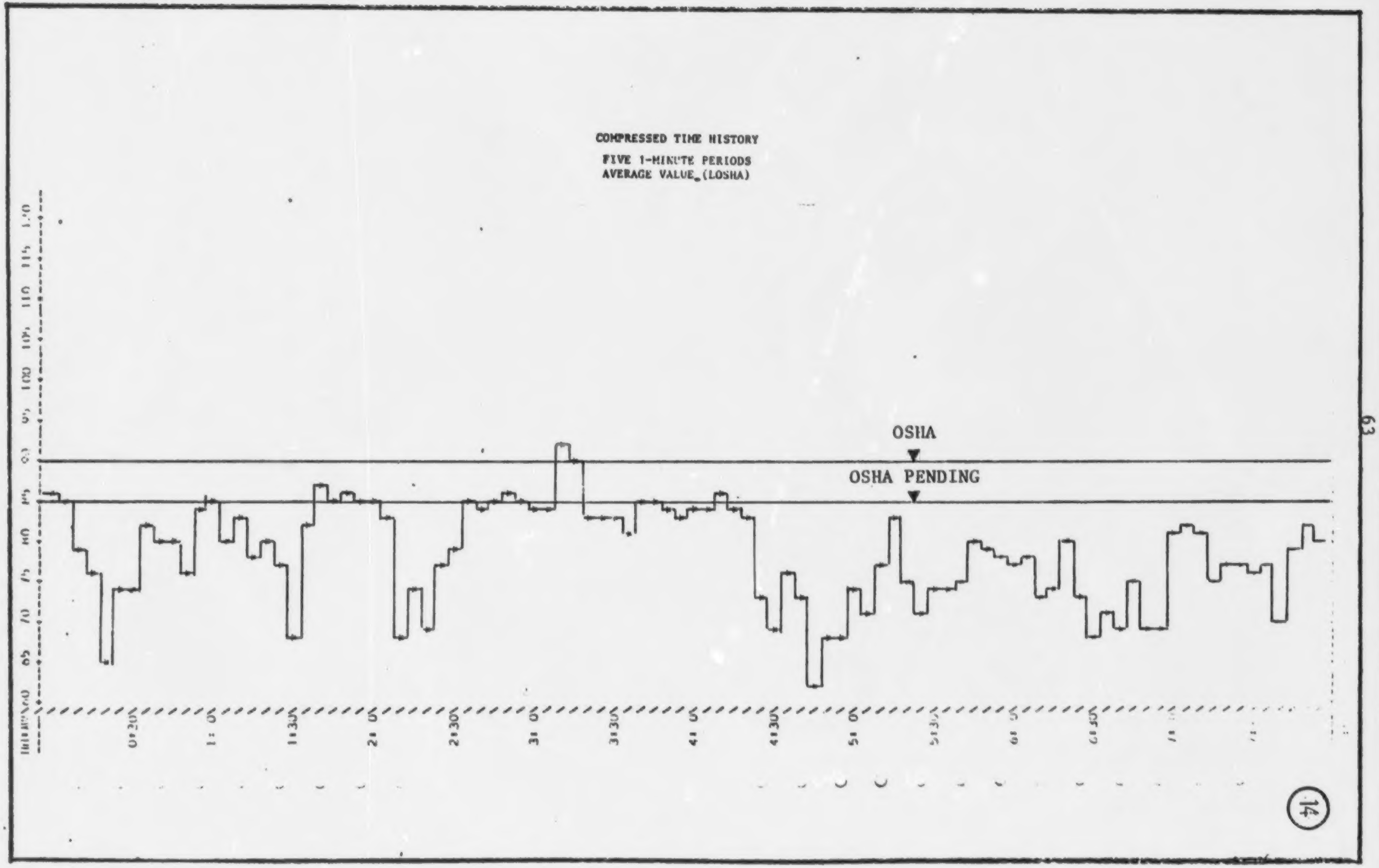
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
46	9.6	60 TO 64
48	10.0	65 TO 69
73	15.2	70 TO 74
79	16.5	75 TO 79
139	29.0	80 TO 84
89	18.5	85 TO 89
3	.6	90 TO 94
3	.6	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 476

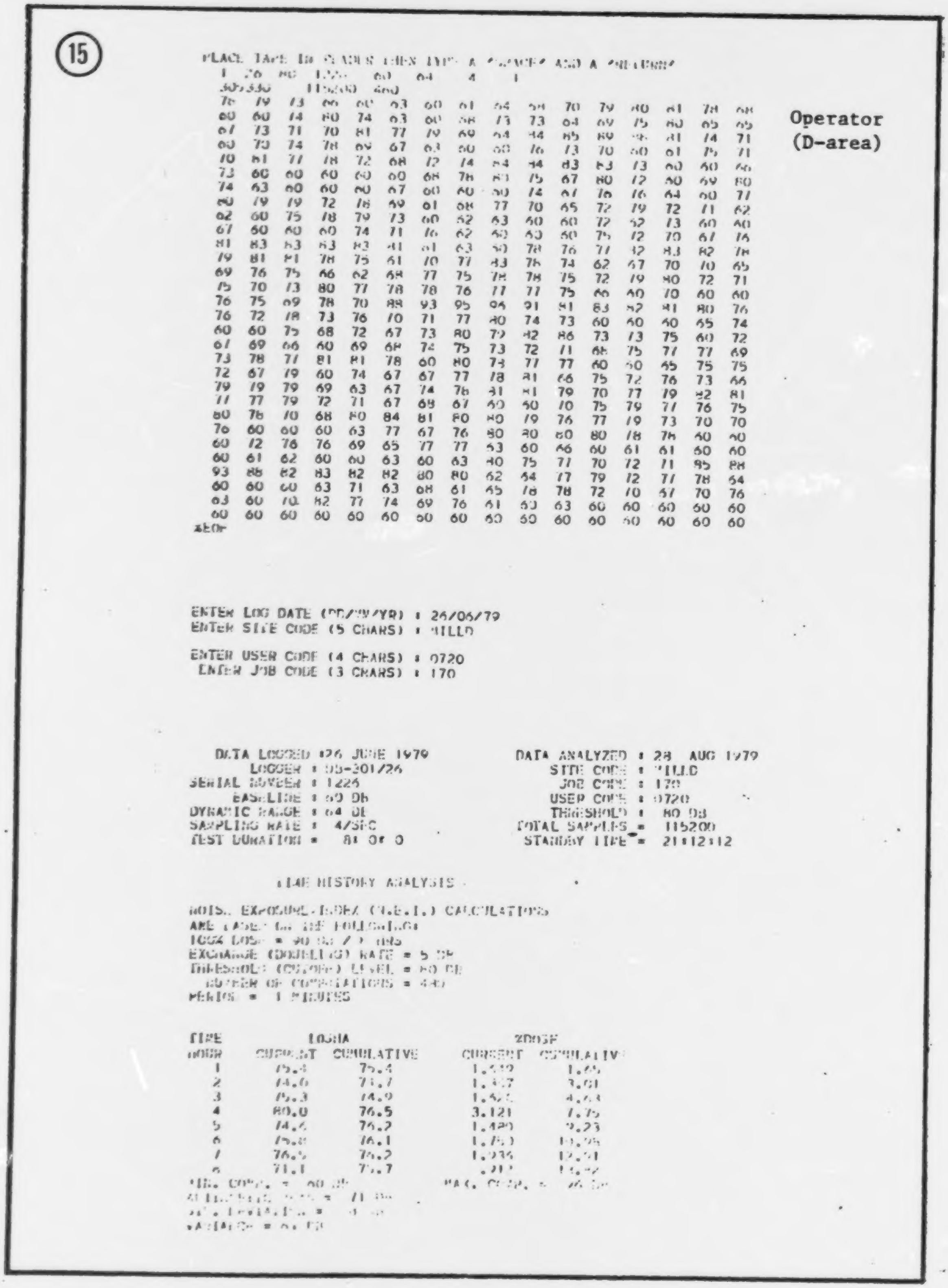


COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑮

Operator (D-area)



```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  06  1225    60   64    4    1
 305330     115200  480
 76  79  73  66  60  63  60  61  64  58  70  79  80  81  78  68
 60  60  74  80  74  63  60  58  73  73  64  69  75  80  65  65
 67  73  71  70  81  77  79  69  64  84  85  89  [illegible]  81  74  71
 60  73  74  78  69  67  63  60  60  76  73  70  60  61  75  71
 70  81  77  78  72  68  72  74  84  84  83  83  73  60  60  66
 73  60  60  60  60  60  68  78  80  75  67  80  72  80  69  80
 74  63  60  60  80  67  60  80  80  74  67  76  76  64  60  77
 80  79  79  72  78  89  61  68  77  70  65  72  79  72  71  62
 62  60  75  78  79  73  60  62  63  60  60  72  62  73  60  80
 67  60  80  60  74  71  76  62  60  63  60  75  72  70  61  76
 81  83  83  83  83  81  61  63  60  78  76  77  82  83  82  78
 79  81  81  78  75  61  70  77  83  76  74  62  67  70  70  65
 69  76  75  66  62  68  77  75  78  78  75  72  79  80  72  71
 75  70  73  80  77  78  78  76  77  77  75  66  80  70  60  60
 76  75  69  78  70  88  93  95  96  91  81  83  82  81  80  76
 76  72  78  73  76  70  71  77  80  74  73  60  60  60  65  74
 60  60  75  68  72  67  73  80  79  82  86  73  73  75  60  72
 67  69  66  60  69  68  74  75  73  72  71  68  75  77  77  69
 73  78  77  81  81  78  60  80  73  77  77  60  60  65  75  75
 72  67  79  60  74  67  67  77  78  81  66  75  72  76  73  66
 79  79  79  69  63  67  74  76  81  81  79  70  77  79  82  81
 77  77  79  72  71  67  68  67  60  60  70  75  79  77  76  75
 80  76  70  68  80  84  81  80  80  79  76  77  79  73  70  70
 76  60  60  60  63  77  67  76  80  80  80  80  78  76  60  60
 60  72  76  76  69  65  77  77  63  60  66  60  61  61  60  60
 60  61  62  60  60  63  60  63  80  75  77  70  72  71  85  88
 93  86  82  83  82  82  80  80  62  64  77  79  72  77  78  64
 60  60  60  63  71  63  68  61  65  78  78  72  70  67  70  76
 63  60  70  82  77  74  69  76  61  60  63  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF


ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLD

ENTER USER CODE (4 CHARS) : 0720
 ENTER JOB CODE (3 CHARS) : 170



   DATA LOGGED :26 JUNE 1979              DATA ANALYZED : 28  AUG 1979
        LOGGER : 05-201/26                    SITE CODE : MILLD
 SERIAL NUMBER : 1226                          JOB CODE : 170
      BASELINE : 60 DB                        USER CODE : 0720
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY LIFE =  21:12:12

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD  =  1 MINUTES

TIME           LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       75.4       75.4             1.6[illegible]      1.65
   2       74.6       7[illegible].7             1.[illegible]7      3.01
   3       75.3       74.9             1.5[illegible]      4.[illegible]3
   4       80.0       76.5             3.121      7.75
   5       74.6       76.2             1.480      9.23
   6       75.8       76.1             1.750     10.98
   7       76.5       76.2             1.935     12.91
   8       71.1       75.7              .21[illegible]     1[illegible].[illegible]2
MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
ARITHMETIC MEAN =  71 DB
STD. DEVIATION =   [illegible]
VARIANCE = [illegible]
```

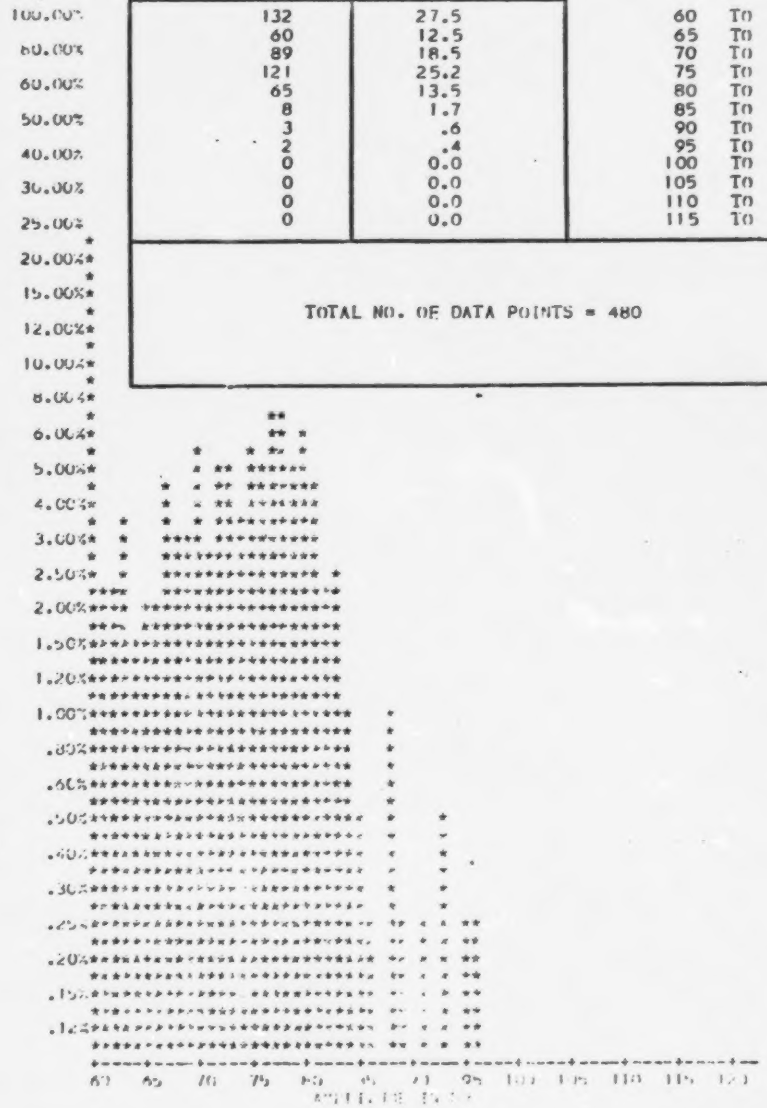
⑮

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
132	27.5	60 TO 64
60	12.5	65 TO 69
89	18.5	70 TO 74
121	25.2	75 TO 79
65	13.5	80 TO 84
8	1.7	85 TO 89
3	.6	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

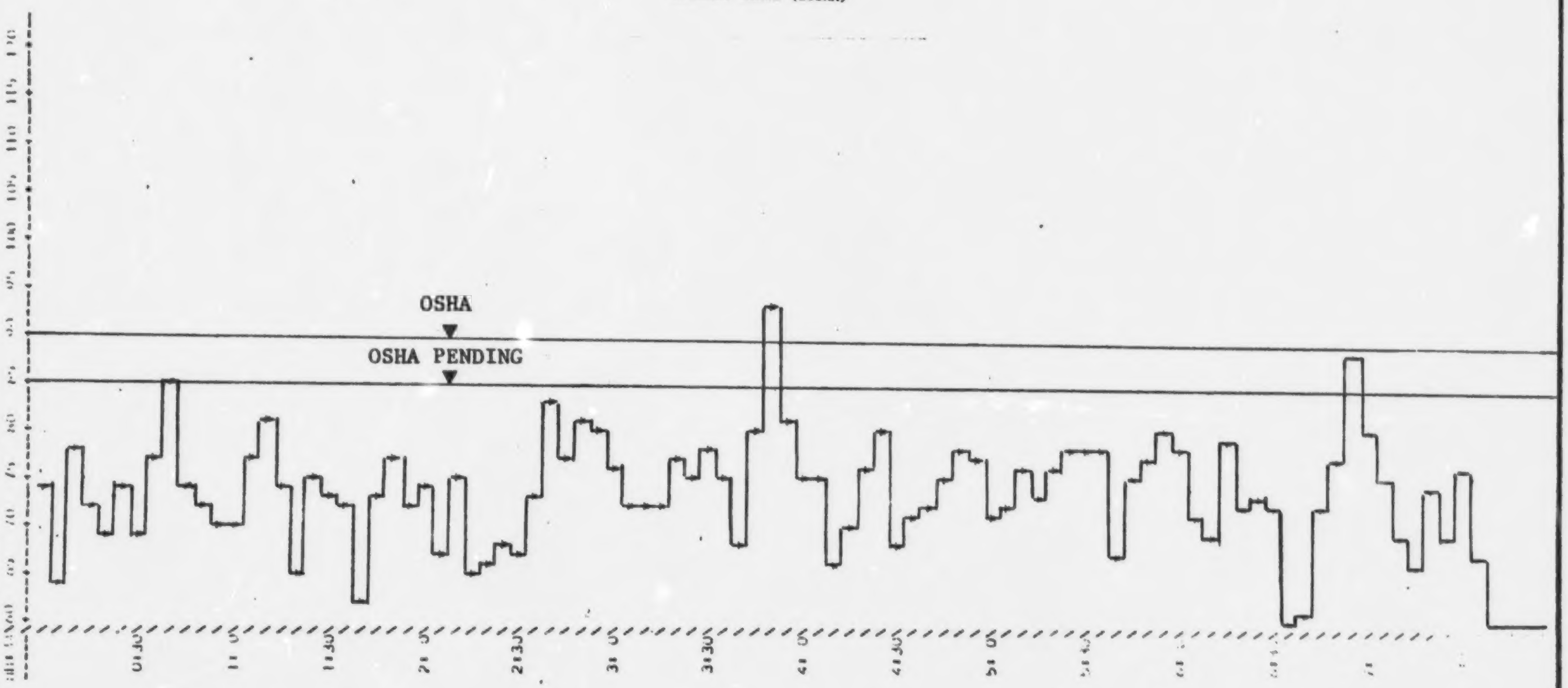


Number of computations = 480

⑮

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



16

**Operator
(D-area)**

```
PLAC. [illegible]
 : 26  80  1221    60   64    4    1
  21.03     114[illegible]   47[illegible]
 93  92  [illegible] [illegible] 61 [illegible] [illegible] [illegible] [illegible] 50  78 [illegible] [illegible] [illegible] 74 [illegible]
 64  69  [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
 64  74  89  90  91  88  86 [illegible] [illegible] 3 [illegible] 76  75  77  73 [illegible]
 60  62 [illegible] [illegible] 77  81  86  83  84  83 [illegible] 83 [illegible] [illegible] 80 [illegible]
 66  84 [illegible] [illegible] [illegible] 85  83  84 [illegible] 84  77 [illegible] [illegible] 60 [illegible] 60
 60  64 [illegible] 89  90  91 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
 65  84 [illegible] 84  83  84  84 [illegible] 85  34  84 [illegible] [illegible] [illegible] [illegible] [illegible]
 64  64 [illegible] 84  82  82  82  83  33  82  83  83  76  77 [illegible] 83
 64  74  84  81  82  81 [illegible] 85 [illegible] [illegible] 70 [illegible] 81 [illegible] [illegible] 82
 69  69 [illegible] 83  82  81 [illegible] 89 [illegible] 77  83  83  83  82 [illegible] 83
 83  83  83  83  83  82  83  82  81  81  82  82  83  83  81  80
 83  82  82  82  81 [illegible] [illegible] 85 [illegible] 83 [illegible] [illegible] 60 [illegible] [illegible] 65
 73  78 [illegible] 74  74  74  72  75  74  72  76  79 [illegible] 75  74  87
 88  88  90  85  82  84  83  83  82  34  82  85  82  82  83  82
 83  83  82  85  83  84  84  83  83  14  85  85  83  85  84  83
 83  83  83  83  83  82  83  78  83  83  83  81  85  87  83  85
 75  82  82  83  82  82  82  81  83  83  83  83  83  83  84  85
 64  63  74  63  61  60  68  60  61  64  60  74  68  62  62  61
 69  67  61  64  67  65  60  61  63  79  80  80  60  63  72  74
 76  76  75  78  74  61 '83  84  83  82  83  82  82  83  83  83
 83  83  83  83  84  83  84  76  75  82  87  88  90  89  83  79
 83  82  84  83  82  83  83  82  82  82  83  82  82  82  73  64
 62  70  60  83  73  61  84  87  86  85  87  61  60  75  66  86
 85  85  85  86  85  85  85  86  85  86  86  86  86  86  82  87
 86  89  90  90  78  85  85  84  84  84  84  85  85  85  82  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
.60  60  60  60  60  60  60  60  60  60  60  60  62  60  66  60
 60  60  65  66  67  60  60  60  60  64  60  73  63  62  60  60
 60  60  60  60  60  60  60  66  60  60  60  60  60  62  60  60
 60  60  63  75  60  60  60  63  64  64  60  66  77  75  60  60
&EOF


ENTER LOG DATE ( D/ Y/YR) : 2 /06/79

ENTER SITE CODE (5 CHARS) : MILL[illegible]
ENTER USER CODE (4 CHARS) : 0720
 ENTER JOB CODE (3 CHARS) : 170


    DATA LOGGED :28 JUNE 1979              DATA ANALYZED : 23  AUG 1979
         LOGGER : [illegible]-301/26              SITE CODE : MILL[illegible]
  SERIAL NUMBER : 1221                         JOB CODE : 170
       BASELINE : 60 DB                       USER CODE : 0720
  DYNAMIC RANGE : 54 DB                       THRESHOLD : [illegible] DB
  SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  114[illegible]
  TEST DURATION =    7:5[illegible]:22             STANDBY TIME =    1:26:25

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING :
100% DOSE = [illegible] / [illegible] HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF CALCULATIONS = [illegible]
PERIOD =  1 [illegible]

TIME          [illegible]                        [illegible]
HOUR    CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
   1      82.1       82.1              4.17[illegible]      4.1[illegible]
   2      8[illegible]       83.0             [illegible]        [illegible]
   3      [illegible]       [illegible]             [illegible]       1[illegible]
   4      [illegible]       [illegible]             4.1[illegible]       [illegible]
   5      [illegible]       [illegible]             2.[illegible]      21.1[illegible]
   6      81.[illegible]       82.1             4.[illegible]      2[illegible]
   7      [illegible]       [illegible]             [illegible]        [illegible]
   8      [illegible]       [illegible]             [illegible]        [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

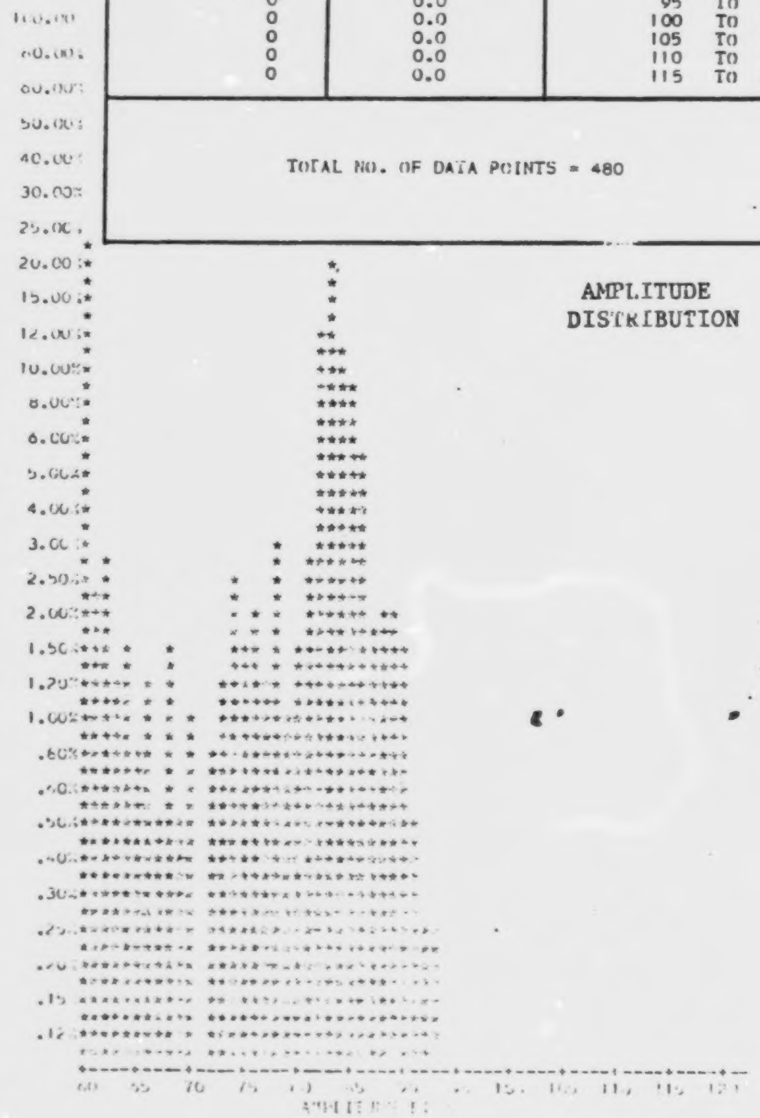
⑯

FREQUENCY DISTRIBUTION

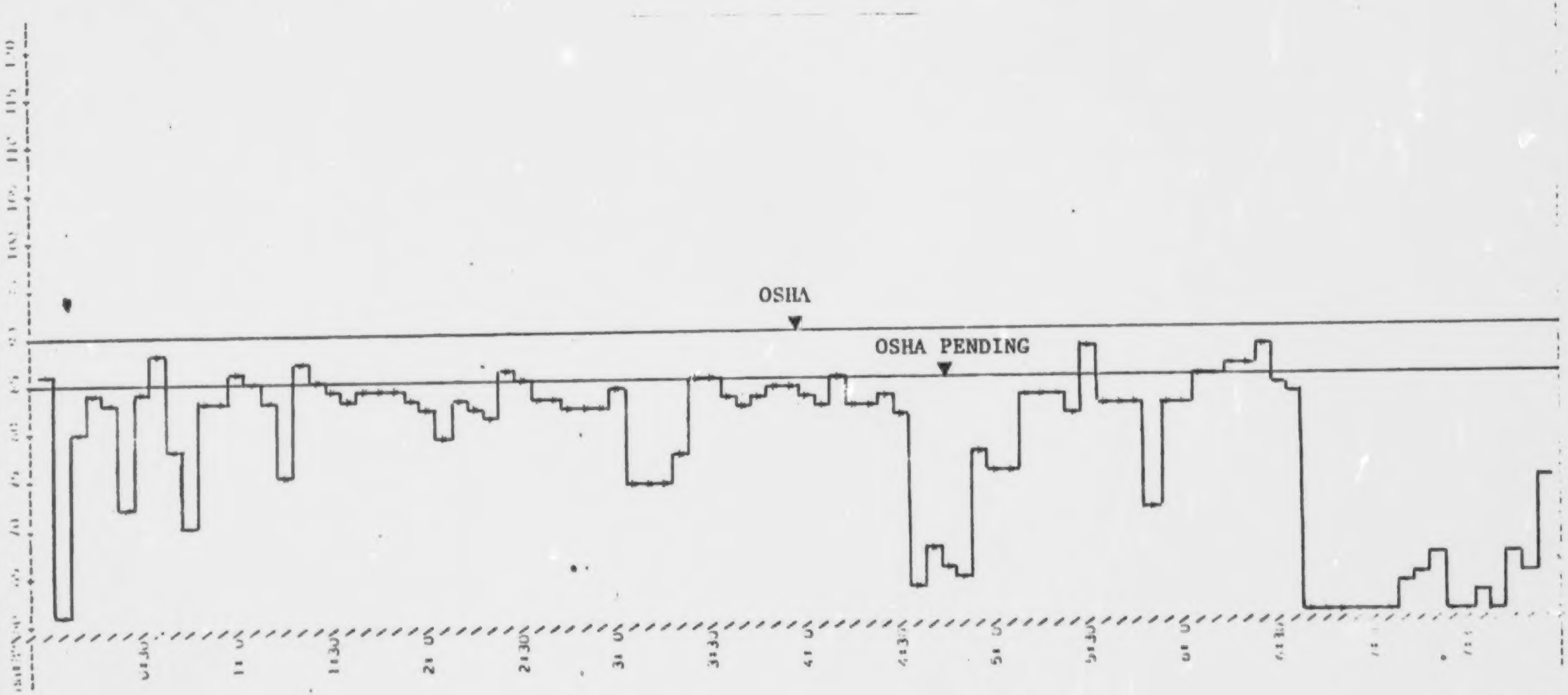
FREQUENCY		GROUP
NUMBER	PER CENT	
46	9.6	60 TO 64
33	6.9	65 TO 69
31	6.5	70 TO 74
45	9.4	75 TO 79
204	42.5	80 TO 84
117	24.4	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

AMPLITUDE DISTRIBUTION



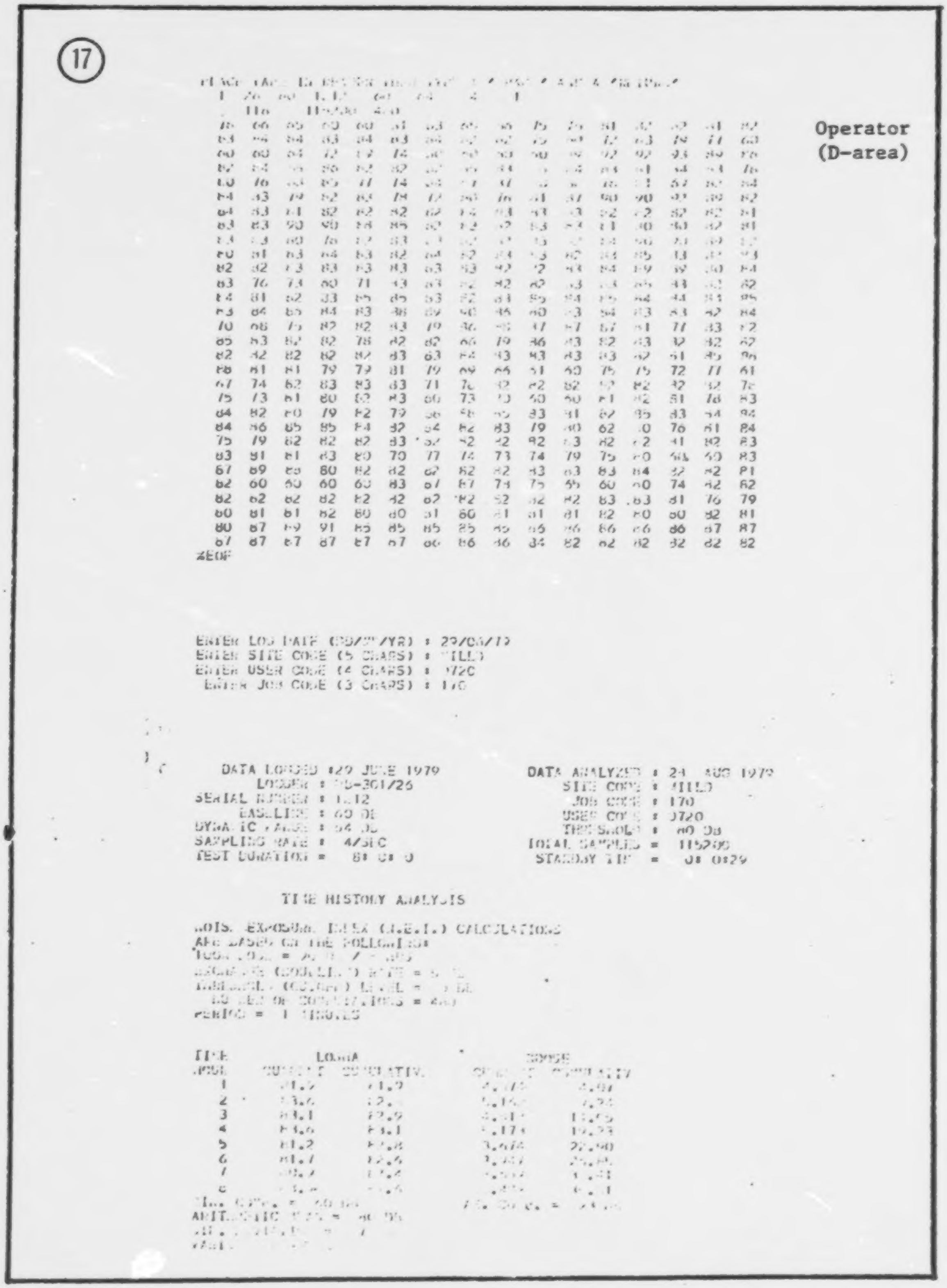
Number of computations = 478



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

⑯

⑰



```
[illegible]
 I  76  60  1.1? [illegible]  4    1
    11o    [illegible]
 76  66  65  60  60  61  63  66  65  75  75  81  82  62  61  82
 83  66  84  83  84  83  84  82  62  75  69  72  83  78  77  63
 60  60  64  72  72  74  60  60  60  60  69  92  92  93  84  76
 82  84 [illegible] 86  82  82 [illegible] [illegible] 84 [illegible] 84  83  81  84  84  76
 80  76  63  85  77  74  63 [illegible] 87 [illegible] [illegible] 76  81  87  87  84
 84  83  79  82  83  78  72  80  76  81  87  80  90  83  80  82
 84  83  81  82  82  82  82  84  83  83  83  82  82  82  82  81
 83  83  90  90  88  85  80  82  82  83  83  81  80  80  82  81
 83  83  80  76  82  83  83 [illegible] [illegible] 85 [illegible] 84  90  81  80  82
 80  81  83  84  83  82  84  82  84  83  82  84  85  83  83  83
 82  82  83  83  83  83  83  83  82  82  83  84  89  89  80  84
 83  76  73  80  71  43  83  82  82  82  83  83  85  83  82  82
 84  81  82  83  85  85  83  82  83  85  84  85  84  84  84  85
 83  84  85  84  83  88  89  90  86  80  83  84  83  83  82  84
 70  68  75  82  82  83  79  76 [illegible] 87  87  87  81  77  83  82
 85  83  82  82  78  82  82  66  79  86  83  82  83  82  82  82
 82  82  82  82  82  83  63  84  83  83  83  83  82  81  85  86
 88  81  81  79  79  81  79  69  66  51  60  75  75  72  77  61
 67  74  82  83  83  83  71  76  82  82  82  82  82  82  82  76
 75  73  81  80  82  83  80  73  73  60  60  81  82  81  78  83
 84  82  80  79  82  79  56  56  55  83  81  82  85  83  54  94
 84  86  85  85  84  82  54  82  83  79  80  62  80  76  81  84
 75  79  82  82  82  83  52  82  82  92  83  82  82  81  82  83
 83  81  81  83  80  70  77  74  73  74  79  75  80  68  60  83
 67  69  85  80  82  82  82  82  82  83  83  83  84  82  82  81
 62  60  60  60  60  83  67  67  73  75  55  60  60  74  82  62
 82  62  62  82  82  82  62  82  52  82  82  83  63  81  76  79
 60  81  61  82  80  80  51  60  81  81  81  82  80  60  82  81
 80  87  89  91  85  85  85  85  85  86  86  86  86  86  87  87
 67  87  87  87  87  87  86  86  86  84  82  82  82  82  82  82
%EOF



ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILLD
ENTER USER CODE (4 CHARS) : 0720
 ENTER JOB CODE (3 CHARS) : 170



    DATA LOGGED :29 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : DS-301/26                      SITE CODE : MILLD
 SERIAL NUMBER : 1.12                            JOB CODE : 170
      BASELINE : 60 DB                          USER CODE : 0720
 DYNAMIC RANGE : 54 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =   0: 0:29

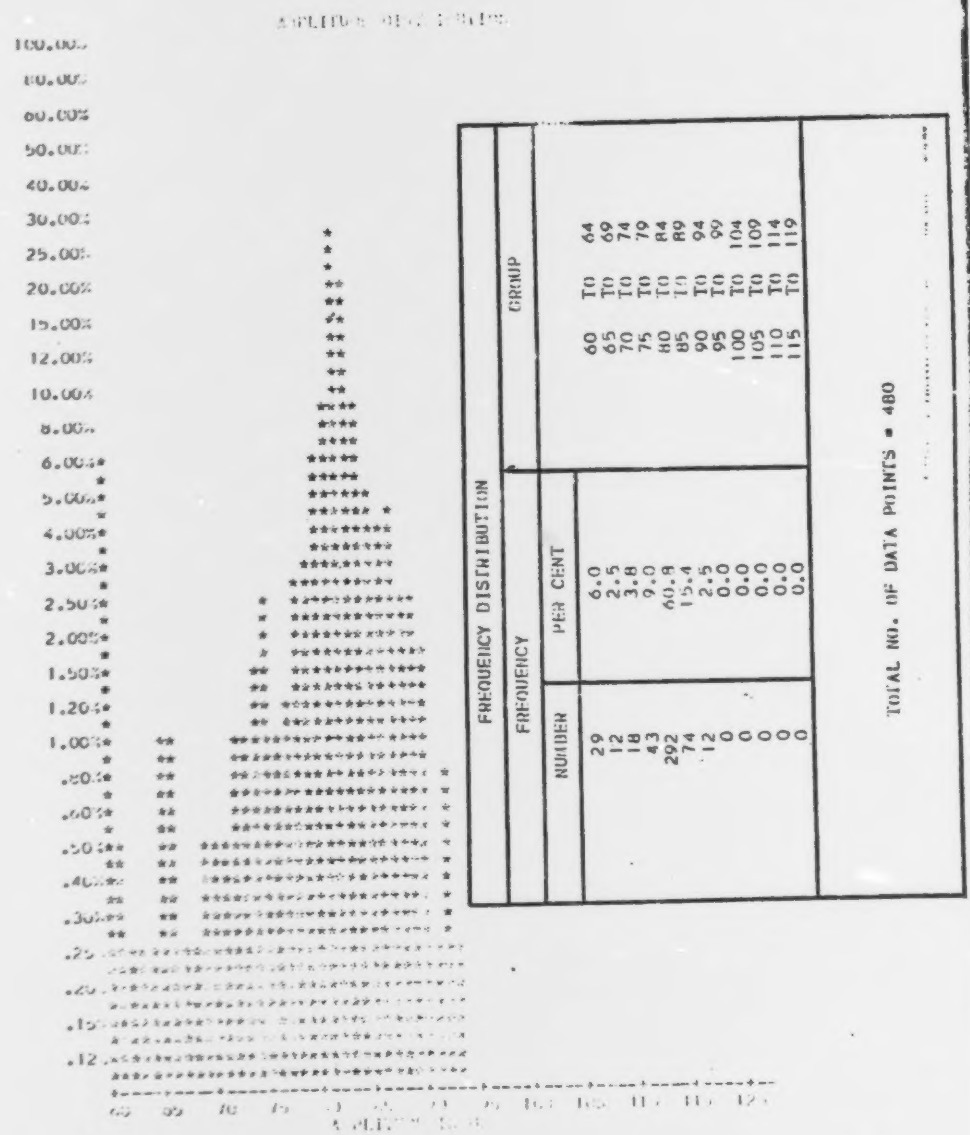
           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 [illegible]
 [illegible]
 [illegible]
 [illegible]
 PERIOD =  1 MINUTES

 TIME           LOGGA                    [illegible]
 HOUR     CURRENT  CUMULATIV.       CURRENT   CUMULATIV
    1       81.?      81.?           [illegible]     4.97
    2  .    83.6      82.?           [illegible]     7.?4
    3       83.1      82.9           [illegible]    1?.??
    4       83.6      83.1           [illegible]    19.?3
    5       81.2      82.8           3.674     22.90
    6       81.7      82.6           [illegible]   [illegible]
    7      [illegible]  [illegible]     [illegible]   [illegible]
    8      [illegible]  [illegible]     [illegible]   [illegible]
 [illegible]
 ARITHMETIC [illegible]
 [illegible]
 [illegible]
```

Operator (D-area)

⑰

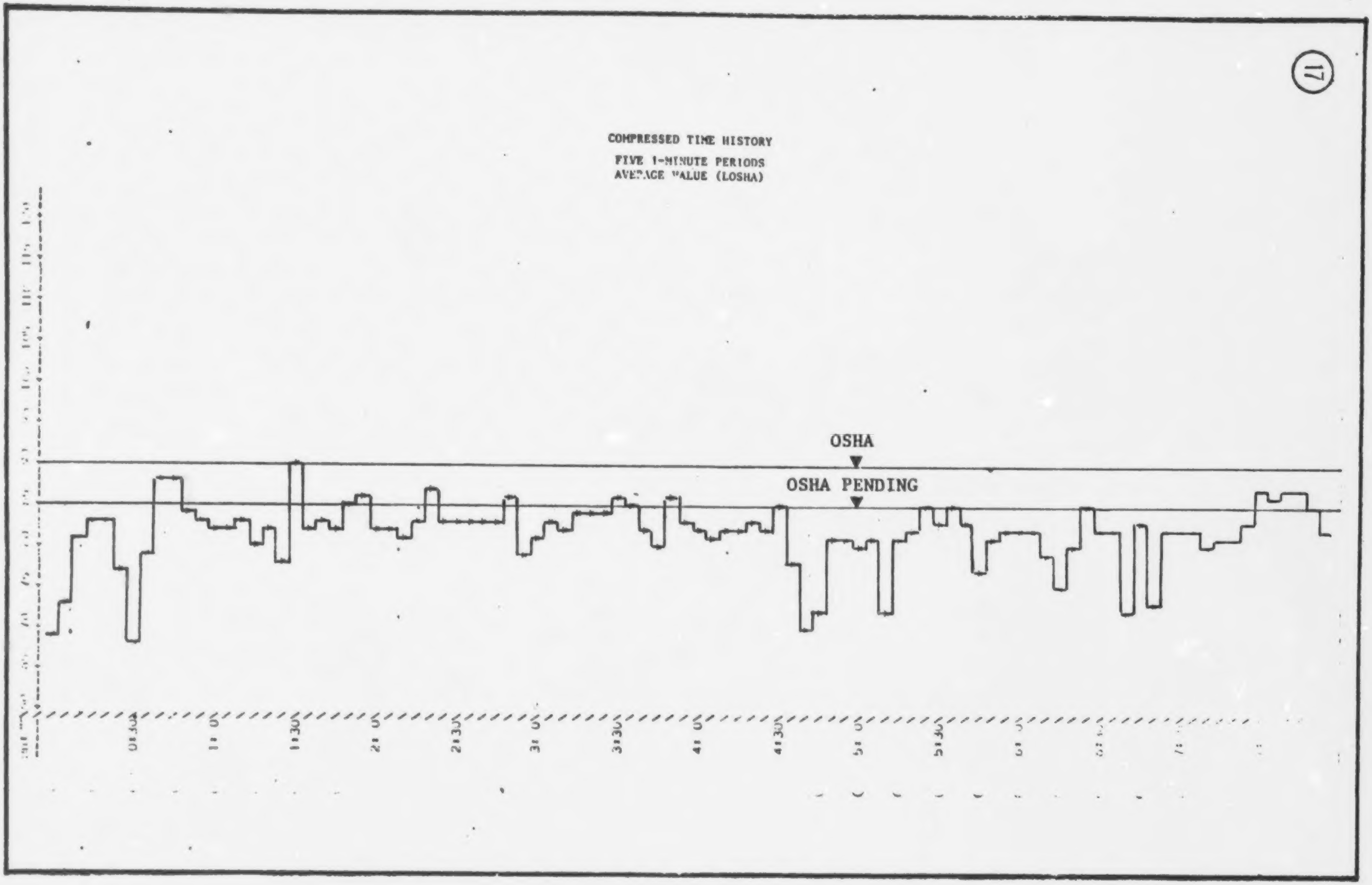


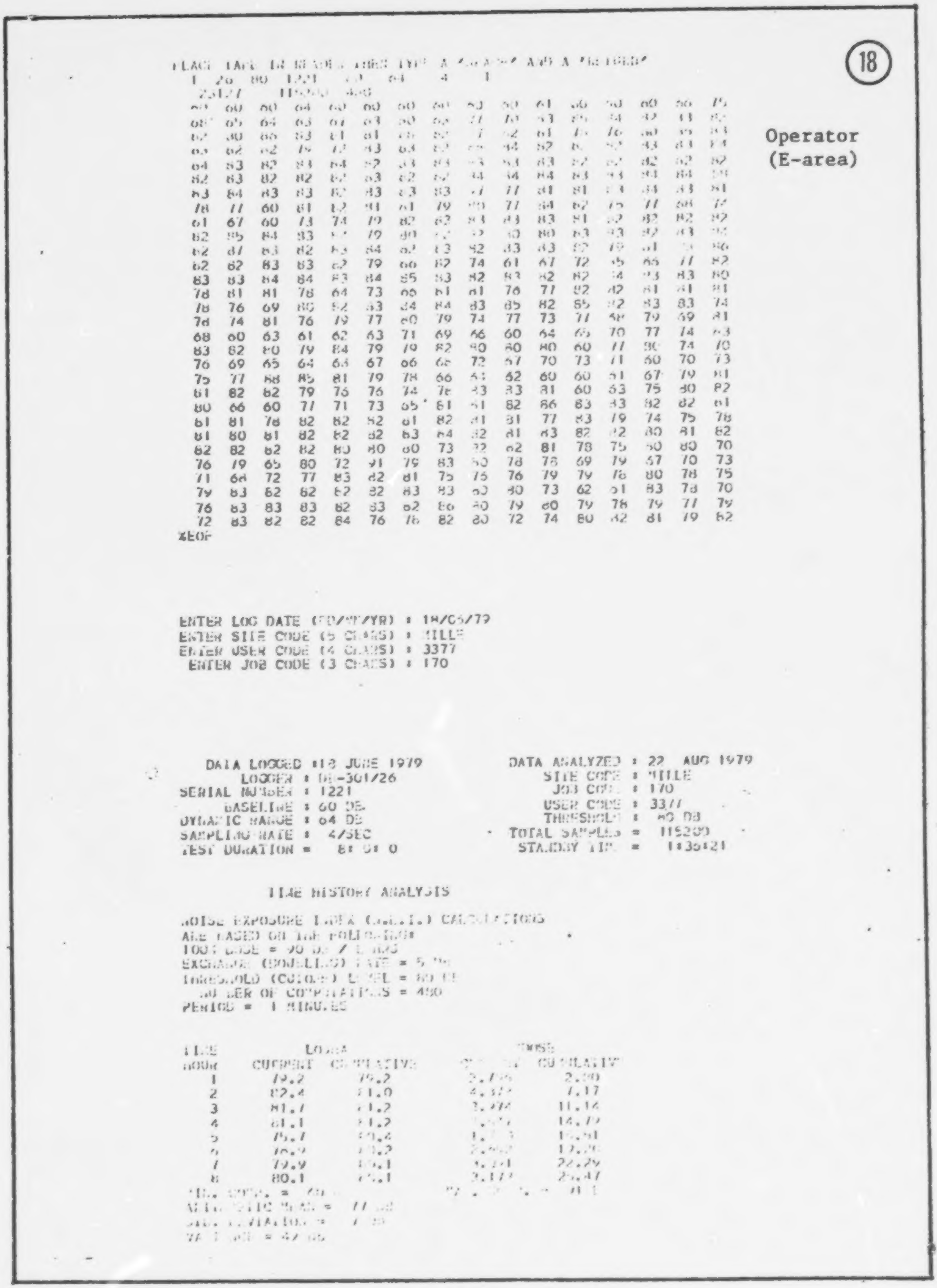
FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
29	6.0	60 TO 64
12	2.5	65 TO 69
18	3.8	70 TO 74
43	9.0	75 TO 79
292	60.8	80 TO 84
74	15.4	85 TO 89
12	2.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


⑰
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
110
115
120



```
PLACE TAPE IN READER THEN TYPE A '[illegible]' AND A '[illegible]'
  1  20  80  1221  60  64   4   1
  25127    115200  480
  [illegible] 60 60 64 60 60 60 60 83 50 61 60 50 60 50 75
  68 65 64 63 67 63 80 65 77 70 63 85 84 82 83 82
  82 80 66 83 81 81 [illegible] 82 77 82 61 75 76 80 85 83
  63 62 62 78 72 83 63 82 [illegible] 84 82 [illegible] 82 83 83 84
  64 83 82 84 84 82 83 83 83 83 83 82 82 82 82 82
  82 83 82 82 82 83 82 82 84 84 84 83 83 84 84 [illegible]
  83 84 83 83 82 83 83 83 77 77 81 81 83 84 83 81
  78 77 60 81 82 81 61 79 80 77 84 82 75 77 68 77
  61 67 60 73 74 79 82 62 83 83 83 81 82 82 82 82
  82 85 84 83 [illegible] 79 80 [illegible] [illegible] 80 80 83 83 82 83 [illegible]
  82 87 83 82 83 84 82 83 82 83 83 82 79 81 [illegible] 86
  62 82 83 83 62 79 66 82 74 61 67 72 85 65 77 82
  83 83 84 84 83 84 85 83 82 83 82 82 74 83 83 80
  78 81 81 78 64 73 65 81 81 76 71 82 82 81 81 81
  78 76 69 80 82 83 84 84 83 85 82 85 82 83 83 74
  78 74 81 76 79 77 80 79 74 77 73 77 58 79 69 81
  68 60 63 61 62 63 71 69 66 60 64 65 70 77 74 83
  83 82 80 79 84 79 79 82 80 80 80 60 77 80 74 70
  76 69 65 64 63 67 66 65 72 57 70 73 71 60 70 73
  75 77 88 85 81 79 78 66 61 62 60 60 51 67 79 81
  61 82 62 79 76 76 74 76 83 83 81 60 63 75 80 82
  80 66 60 77 71 73 65 81 61 82 86 83 83 82 82 61
  61 81 78 82 82 82 61 82 81 81 77 83 79 74 75 78
  81 80 81 82 82 82 63 64 82 81 63 82 82 80 81 82
  82 82 62 82 80 80 60 73 72 62 81 78 75 50 80 70
  76 79 65 80 72 91 79 83 50 78 78 69 79 57 70 73
  71 68 72 77 83 82 81 75 75 76 79 79 76 80 78 75
  79 83 62 82 82 82 83 83 50 80 73 62 51 83 78 70
  76 83 83 83 82 83 62 86 80 79 80 79 78 79 77 79
  72 83 82 82 84 76 76 82 80 72 74 80 82 81 79 82
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLE
ENTER USER CODE (4 CHARS) : 3377
 ENTER JOB CODE (3 CHARS) : 170


   DATA LOGGED :18 JUNE 1979           DATA ANALYZED : 22  AUG 1979
        LOGGER : DE-301/26                 SITE CODE : MILLE
 SERIAL NUMBER : 1221                       JOB CODE : 170
      BASELINE : 60 DB                     USER CODE : 3377
 DYNAMIC RANGE : 64 DB                     THRESHOLD : 80 DB
 SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0              STANDBY TIME =   1:35:21

         TIME HISTORY ANALYSIS

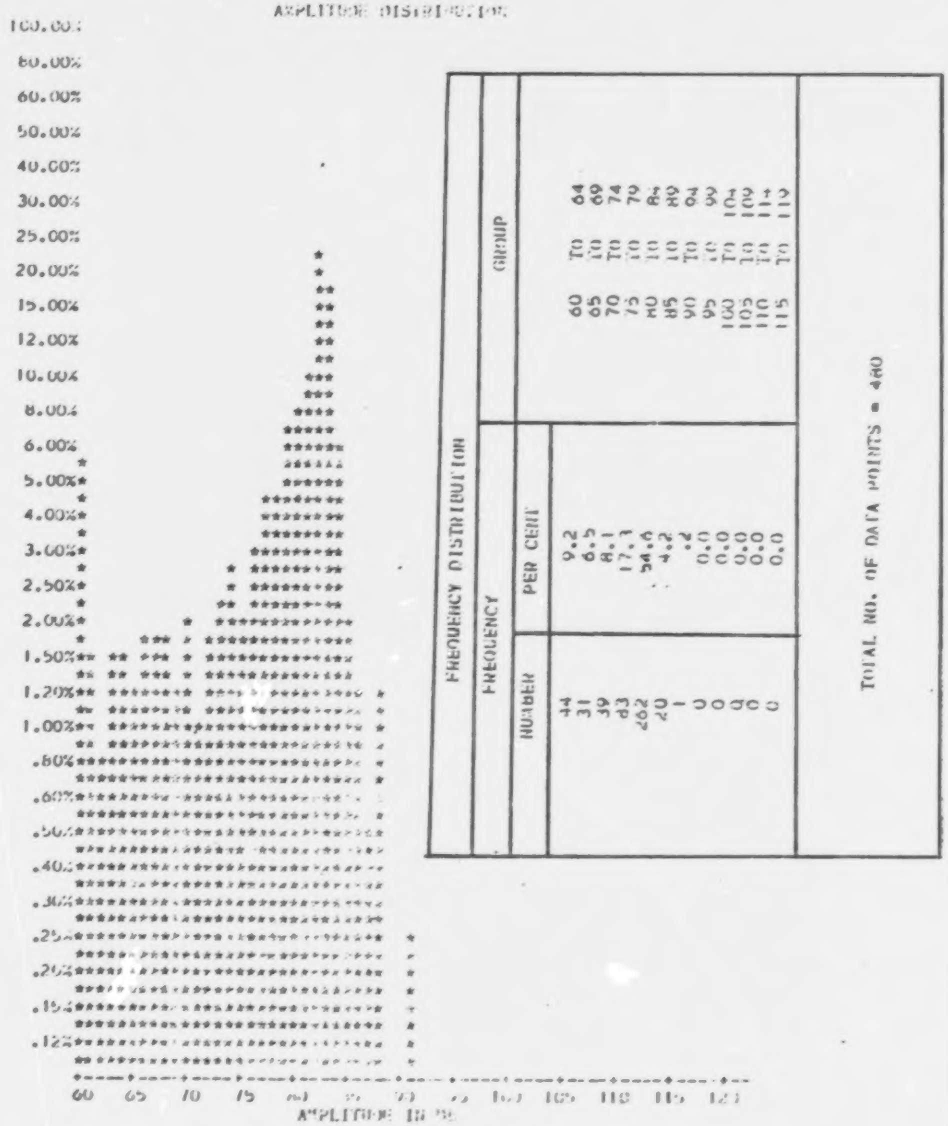
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME            LOSHA                         DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT   CUMULATIVE
   1       79.2       79.2            2.7[illegible]        2.[illegible]
   2       82.4       81.0            4.3[illegible]        7.17
   3       81.7       81.2            3.97[illegible]       11.14
   4       81.1       81.2            [illegible]           14.79
   5       75.7       [illegible]     1.[illegible]         15.[illegible]
   6       76.9       [illegible]     2.[illegible]         17.[illegible]
   7       79.9       [illegible]     4.[illegible]         22.29
   8       80.1       [illegible]     3.17[illegible]       25.47
MIN. OPER. = 60 [illegible]             [illegible]
ARITHMETIC MEAN =  77 DB
STD. DEVIATION =   7 DB
VARIANCE = 47 DB
```

⑱

Operator
(E-area)

⑱

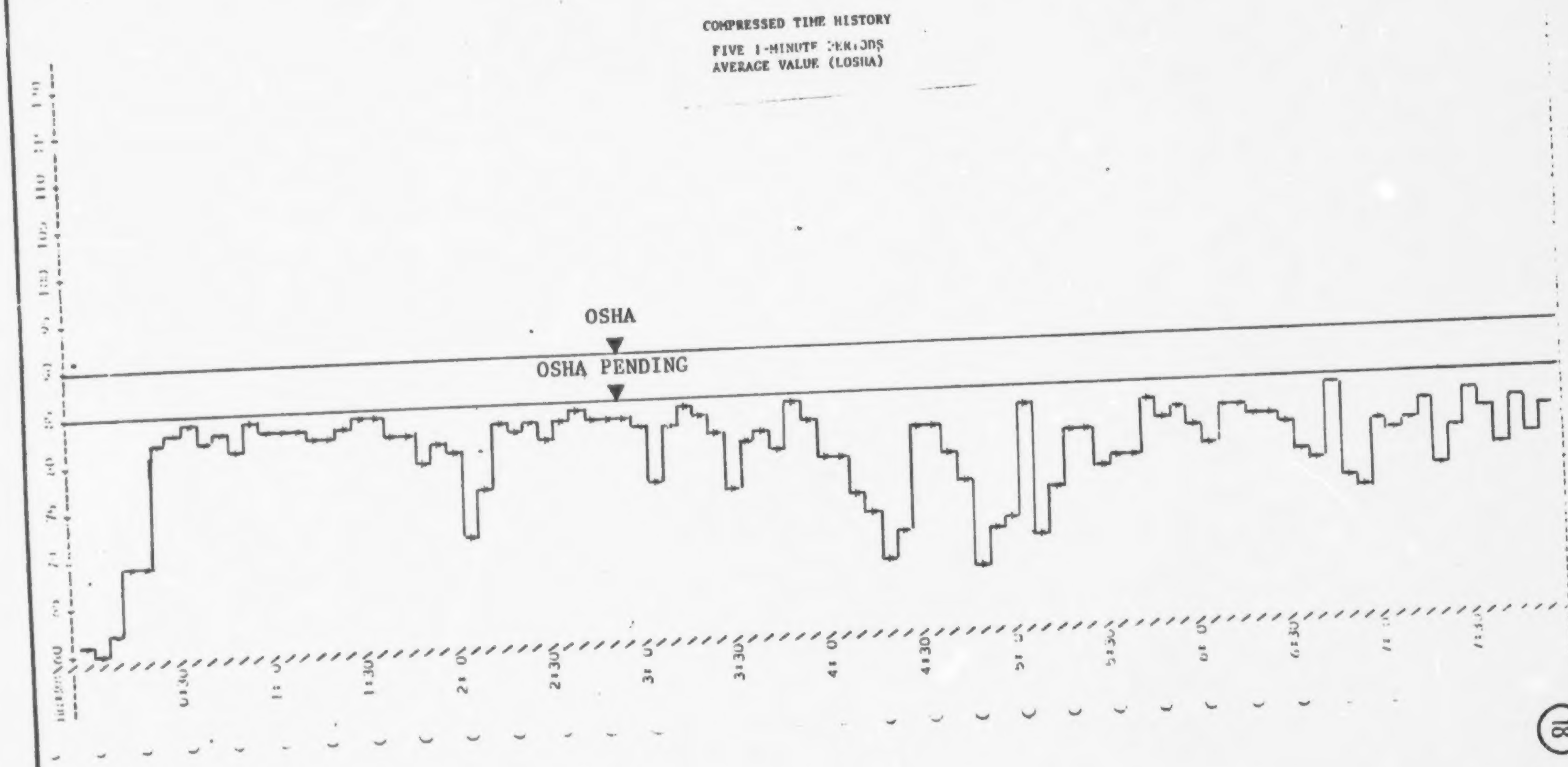


FREQUENCY DISTRIBUTION

FREQUENCY NUMBER	FREQUENCY PER CENT	GROUP
44	9.2	60 TO 64
31	6.5	65 TO 69
39	8.1	70 TO 74
83	17.3	75 TO 79
262	54.6	80 TO 84
20	4.2	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

⑱

⑲

**Operator
(E-area)**

```
[illegible]
  1  26  [illegible]  1214  [illegible]  64  [illegible]  1
  26113   113324  472
  79   83   84   77   77   82   77   83   81   82   84   82   82   84   84   85
  84   83   85   84   85   80   84   80   81   82   83   [illegible]   77   84   83   83
  83   84   80   85   82   84   83   83   81   84   84   83   84   84   82   81
  76   82   84   83   85   84   83   84   81   85   85   84   85   84   85   85
  84   85   84   84   84   84   83   82   80   80   82   83   83   83   85   83
  84   84   83   85   83   82   80   83   82   83   81   83   83   83   83   83
  83   83   76   80   74   79   79   73   75   81   77   83   85   83   82   83
  83   84   83   80   83   81   81   76   71   82   82   82   82   82   82   81
  68   80   80   81   80   79   75   79   75   81   74   80   79   81   75   71
  77   69   68   70   67   69   70   77   72   73   75   76   76   71   71   81
  78   79   82   75   65   77   75   71   84   85   83   84   85   84   83   84
  84   84   84   83   84   88   85   84   83   81   85   82   84   85   84   83
  85   84   85   83   84   84   84   85   84   84   83   84   85   84   33   83
  84   85   84   84   83   83   83   82   83   83   83   82   85   84   83   79
  83   84   81   84   73   83   84   85   81   83   36   85   85   83   82   82
  77   81   85   84   85   83   87   90   75   73   79   74   65   69   68   67
  69   67   68   72   80   64   72   72   69   70   63   67   67   71   60   61
  60   62   62   69   62   63   75   67   72   77   79   70   75   69   71   74
  71   65   75   82   92   81   76   85   83   83   78   81   83   83   83   85
  85   84   82   68   74   81   82   82   84   33   83   87   84   85   84   84
  84   84   85   85   85   84   84   84   83   84   84   87   85   84   83   84
  86   87   83   86   85   84   84   83   83   76   60   79   84   82   76   83
  83   84   86   83   84   83   85   83   83   84   85   84   83   81   60   62
  78   82   83   82   82   81   83   83   84   85   85   84   84   85   75   82
  84   85   85   85   82   84   83   84   83   88   84   84   83   83   83   83
  83   83   82   83   83   81   76   77   82   80   74   75   69   73   75   75
  79   81   85   83   84   85   91   91   91   90   87   83   83   83   79   69
  80   84   83   82   69   75   71   74   81   82   82   81   77   81   84   66
  62   75   84   83   83   78   60   60   79   63   66   81   84   87   85   75
  83   78   78   62   60   63   61   69   60   60   60   60   60   60   60   60
%EOF



ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 3377

 ENTER JOB CODE (3 CHARS) : 170



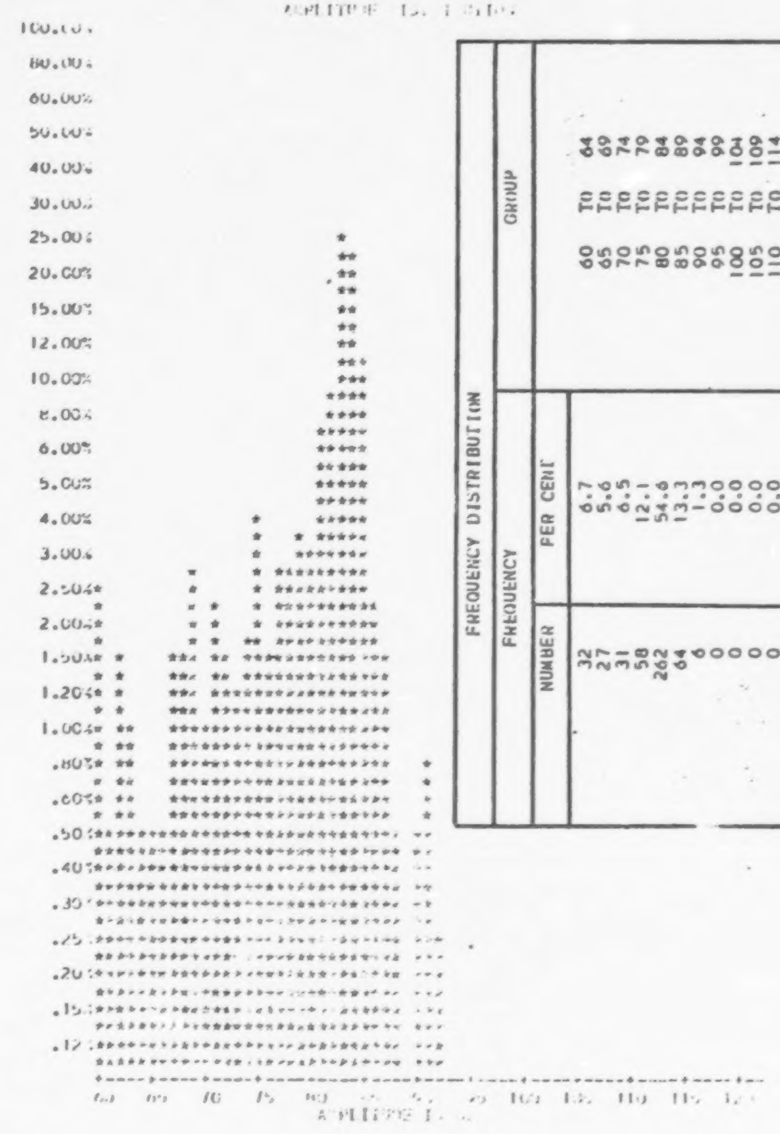
   DATA LOGGED :21 JUNE 1979                DATA ANALYZED : 24  AUG 1979
       LOGGER : GD-301/25.                        SITE CODE : MILL+
SERIAL NUMBER : 1214                               JOB CODE : 170
     BASELINE : 60 DB                             USER CODE : 3377
DYNAMIC RANGE : 64 DB                             THRESHOLD : 60 DB
SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  113324
TEST DURATION =    7:52:11                     STANDBY TIME =   1:14:49

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING :
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 472
PERIOD =  1 MINUTES

TIME          LOSH                      DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT    CUMULATIV
  1       83.0      83.0          4.725       4.75
  2       82.5      82.7          4.391       9.14
  3       79.1      81.7          2.74[illegible]       11.8[illegible]
  4       83.5      82.2          5.[illegible]       16.96
  5       77.6      81.5          2.25[illegible]       19.23
  6       83.5      81.9          5.19[illegible]       24.4[illegible]
  7       82.2      81.9          [illegible]       2[illegible].5[illegible]
  8       81.5      81.9          [illegible]       31.94
MIN. COMP. =  60 DB               MAX. COMP. =  92 DB
[illegible]
[illegible]
[illegible]
```

⑲

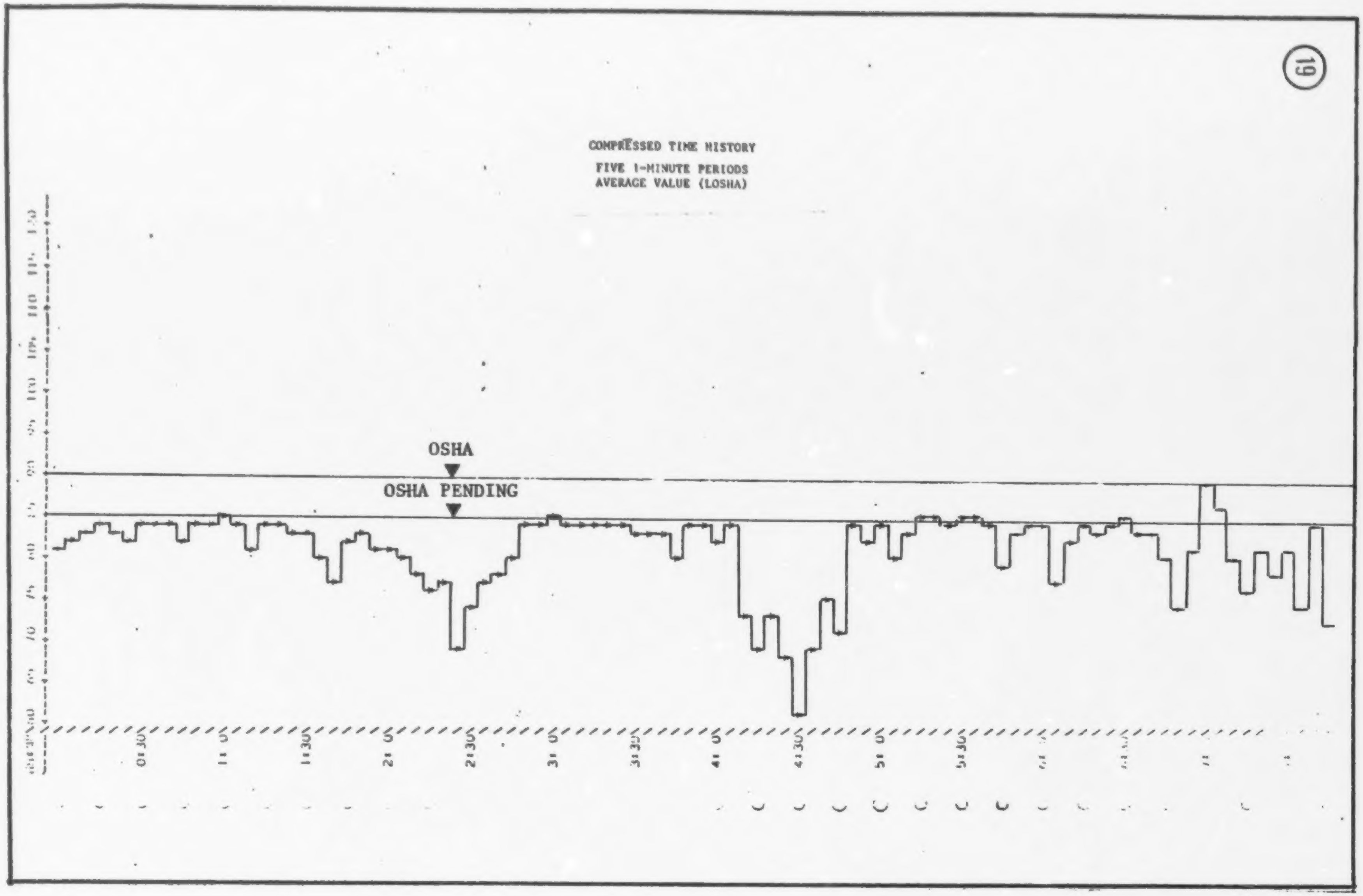


FREQUENCY DISTRIBUTION

GROUP			FREQUENCY NUMBER	FREQUENCY PER CENT
60	TO	64	32	6.7
65	TO	69	27	5.6
70	TO	74	31	6.5
75	TO	79	58	12.1
80	TO	84	262	54.6
85	TO	89	64	13.3
90	TO	94	6	1.3
95	TO	99	0	0.0
100	TO	104	0	0.0
105	TO	109	0	0.0
110	TO	114	0	0.0
115	TO	119	0	0.0

TOTAL NO. OF DATA POINTS = 480

Number of computations = 472

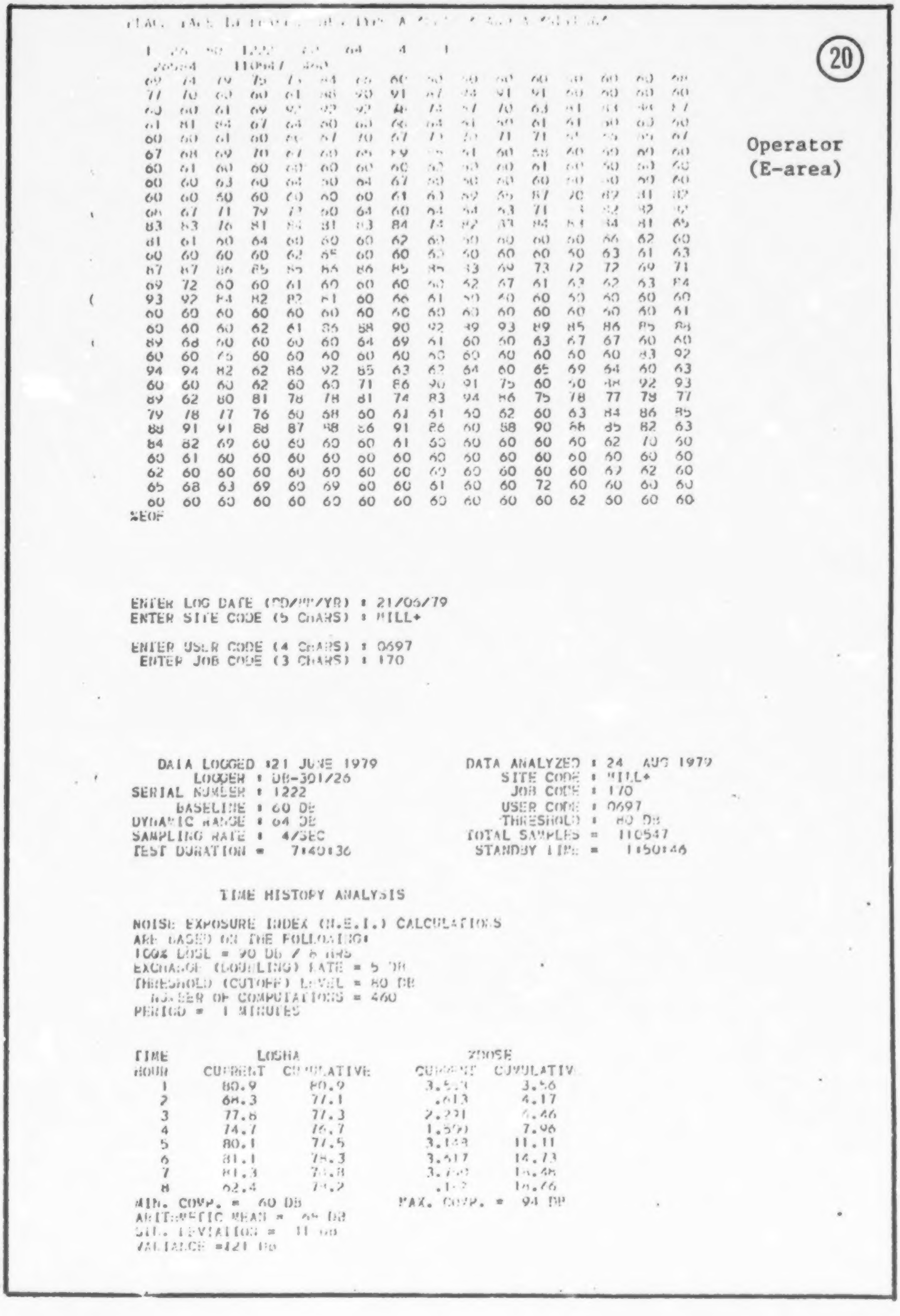


⑲

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30

⑳

Operator
(E-area)



```
[illegible]

  1   26   80   1222   60   64    4    1
  20584     110547   460
69  74  79  75  75  84  65  60  60  60  60  60  60  60  60  60
77  70  60  60  61  88  90  91  67  88  91  91  60  60  60  60
63  60  61  69  92  92  92  84  74  57  70  63  81  84  84  87
61  81  84  67  64  60  60  66  64  61  60  61  61  60  63  60
60  60  61  60  65  67  70  67  71  70  71  71  60  65  65  67
67  68  69  70  67  60  65  89  55  61  60  88  60  60  60  60
60  61  60  60  60  60  60  60  62  63  60  61  60  60  60  60
60  60  63  60  64  50  64  67  60  50  60  60  60  60  60  60
60  60  50  60  60  60  60  61  61  69  65  87  70  82  81  82
66  67  71  79  72  60  64  60  64  64  63  71  83  82  82  82
83  83  76  81  84  81  83  84  74  82  83  84  84  84  81  65
61  61  60  64  60  60  60  62  60  50  60  60  60  66  62  60
60  60  60  60  62  65  60  60  63  60  60  60  50  63  61  63
87  87  86  85  85  86  86  85  85  83  69  73  72  72  69  71
69  72  60  60  61  60  60  60  60  62  67  61  63  62  63  84
93  92  84  82  82  81  60  66  61  50  60  60  50  60  60  60
60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  61
60  60  60  62  61  86  58  90  92  89  93  89  85  86  85  84
89  68  60  60  60  60  64  69  61  60  60  63  67  67  60  60
60  60  65  60  60  60  60  60  60  60  60  60  60  60  83  92
94  94  82  62  86  92  85  63  62  64  60  65  69  64  60  63
60  60  60  62  60  60  71  86  90  91  75  60  60  88  92  93
89  62  80  81  78  78  81  74  83  94  86  75  78  77  78  77
79  78  77  76  60  68  60  61  61  60  62  60  63  84  86  85
88  91  91  88  87  88  86  91  86  60  58  90  66  85  82  63
84  82  69  60  60  60  60  61  60  60  60  60  60  62  70  60
60  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60
62  60  60  60  60  60  60  60  60  60  60  60  60  62  62  60
65  68  63  69  60  69  60  60  61  60  60  72  60  60  60  60
60  60  60  60  60  60  60  60  60  60  60  60  62  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0697
 ENTER JOB CODE (3 CHARS) : 170



     DATA LOGGED :21 JUNE 1979              DATA ANALYZED : 24  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : MILL+
   SERIAL NUMBER : 1222                          JOB CODE : 170
        BASELINE : 60 DB                        USER CODE : 0697
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  110547
   TEST DURATION =    7:40:36                STANDBY TIME =    1:50:46

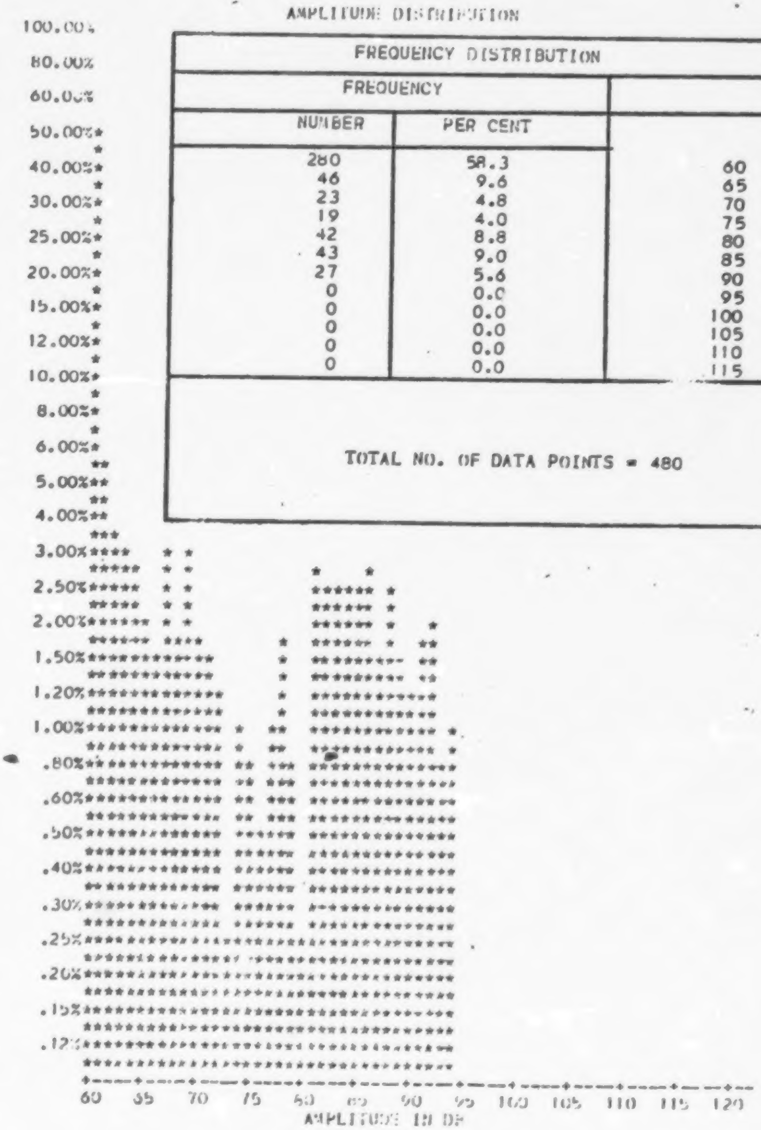
             TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 460
PERIOD =  1 MINUTES


TIME          LOSHA                         %DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1       80.9       80.9            3.559       3.56
   2       68.3       77.1             .613       4.17
   3       77.8       77.3            2.291       6.46
   4       74.7       76.7            1.500       7.96
   5       80.1       77.5            3.148      11.11
   6       81.1       78.3            3.617      14.73
   7       81.3       78.8            3.750      18.48
   8       62.4       78.2             .182      18.66
MIN. COMP. =  60 DB              MAX. COMP. =  94 DB
ARITHMETIC MEAN =  68 DB
STD. DEVIATION =  11 DB
VARIANCE =121 DB
```

⑳

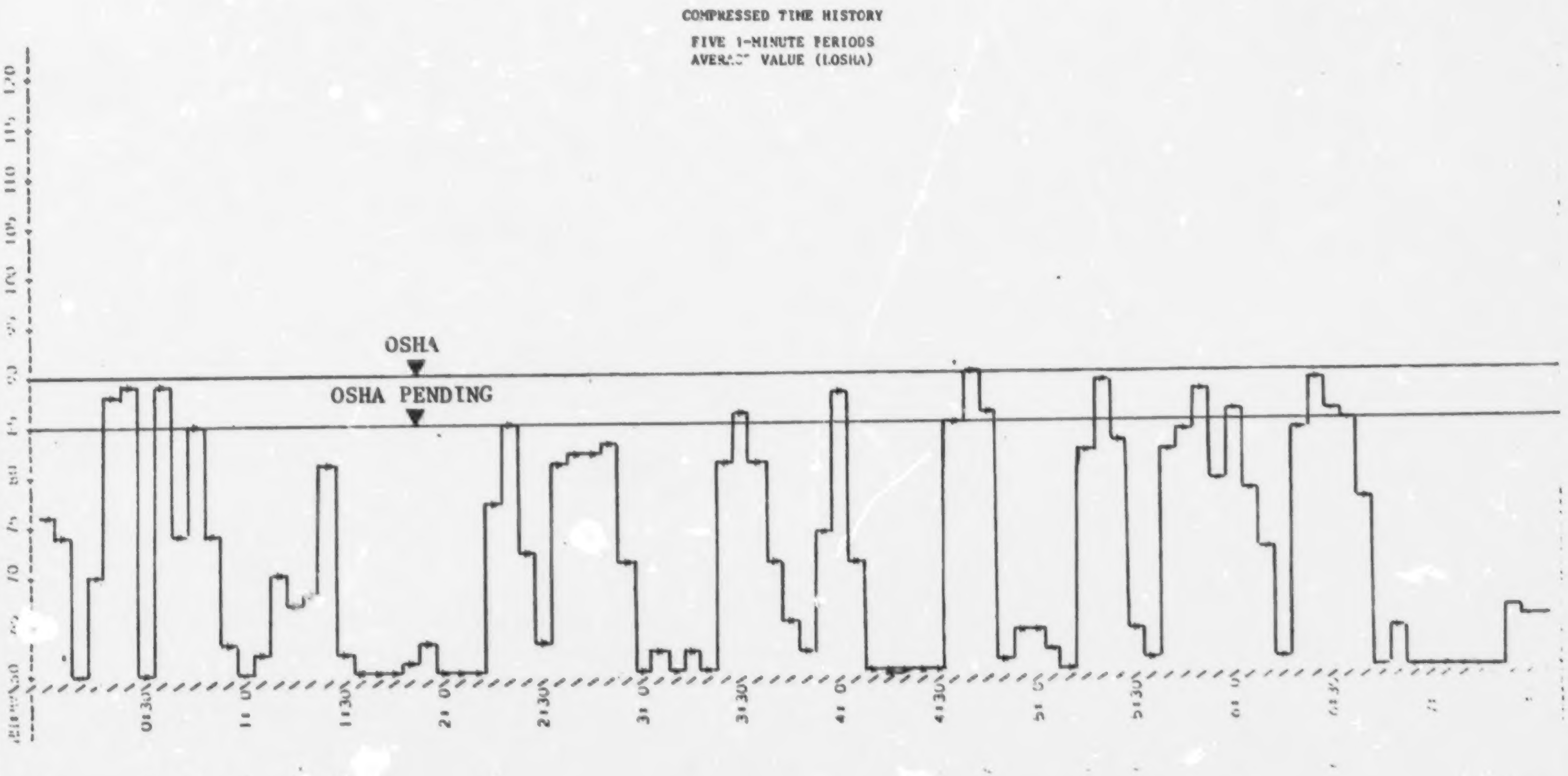
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
280	58.3	60 TO 64
46	9.6	65 TO 69
23	4.8	70 TO 74
19	4.0	75 TO 79
42	8.8	80 TO 84
43	9.0	85 TO 89
27	5.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 460


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
60
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30

⑳

㉑

Operator
(E-area)

```
PLACE TAPE IN READER THEN TYPE A 'RETURN' AND A 'RELEASE'
  1  26  30  1215  60  64   4   1
 JB-301/26   115200  250
  85  84  84  85  85  84  85  85  85  85  85  85  86  85  85  86
  85  87  85  85  85  85  84  84  83  81  84  85  85  86  85  85
  84  84  84  84  84  82  82  80  81  81  80  82  82  81  80  80
  76  81  80  81  82  81  87  85  83  83  81  78  83  75  83  83
  85  85  85  84  86  85  85  72  81  73  76  70  81  85  85  85
  84  83  83  85  83  81  84  83  80  83  80  81  81  81  83  81
  81  81  80  81  81  80  79  75  75  77  83  85  85  84  85  83
  83  76  78  83  83  83  82  80  78  82  84  84  84  82  84  83
  83  83  84  84  82  83  83  83  81  82  77  83  82  83  85  84
  85  84  68  87  87  80  79  83  83  83  84  85  85  84  85  85
  85  85  86  85  86  85  85  84  81  72  80  81  82  82  81  82
  83  81  82  82  82  83  84  84  81  84  84  85  85  84  83  84
  84  83  83  83  82  83  83  83  83  83  83  83  83  82  83  83
  83  84  82  83  82  82  83  83  84  84  84  85  84  84  84  85
  86  86  85  83  84  85  85  84  85  84  85  84  84  84  84  84
  84  83  84  84  84  84  84  84  84  83  83  83  82  81  79  79
  80  74  68  64  63  61  63  60  61  64  62  72  76  72  76  61
  68  64  65  62  62  66  64  79  63  64  61  62  66  63  62  67
  62  69  73  71  71  62  64  61  62  66  65  60  67  67  75  67
  62  70  61  68  70  70  64  82  82  74  78  84  81  77  66  66
  69  77  75  71  74  83  66  71  63  58  71  60  66  60  62  61
  63  61  63  64  61  63  73  65  64  61  67  68  75  77  82  84
  87  83  83  84  84  84  84  83  93  79  71  69  62  62  65  66
  70  69  70  62  68  68  58  67  69  81  87  88  86  85  87  85
  85  85  86  85  84  86  86  84  84  84  85  85  86  94  85  84
  84  84  84  84  85  86  85  85  84  75  60  80  78  72  64  60
  60  61  63  67  75  62  62  83  84  84  84  84  84  84  84  83
  83  84  85  67  85  84  86  85  85  85  86  87  90  88  88  88
  87  88  67  64  84  85  79  85  85  84  80  72  81  62  61  73
  75  76  70  64  64  61  72  66  72  67  60  60  60  60  60  60
*EOF



ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLD

ENTER USER CODE (4 CHARS) : 4037
 ENTER JOB CODE (3 CHARS) : 174



     DATA LOGGED :26 JUNE 1979              DATA ANALYZED : 28  AUG 1979
         LOGGER : JB-301/26                      SITE CODE : MILLD
  SERIAL NUMBER : 1215                            JOB CODE : 174
       BASELINE : 60 DB                          USER CODE : 4037
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  60 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                   STANDBY TIME =  21: 7:58

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES  -


TIME          LOSHA                          OSHA
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1       83.8      83.8               5.411       5.41
  2       82.1      83.0               4.192       9.60
  3       82.6      82.9               4.531      14.13
  4       83.7      83.2               5.254      19.39
  5       75.7      82.2               1.715      21.11
  6       76.1      81.5               1.914      23.02
  7       81.4      81.4               3.695      26.71
  8       82.1      81.5               4.202      30.91
MIN. CONC. =  60 DB                MAX. CONC. =  90 DB
ARITHMETIC MEAN =  78 DB
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

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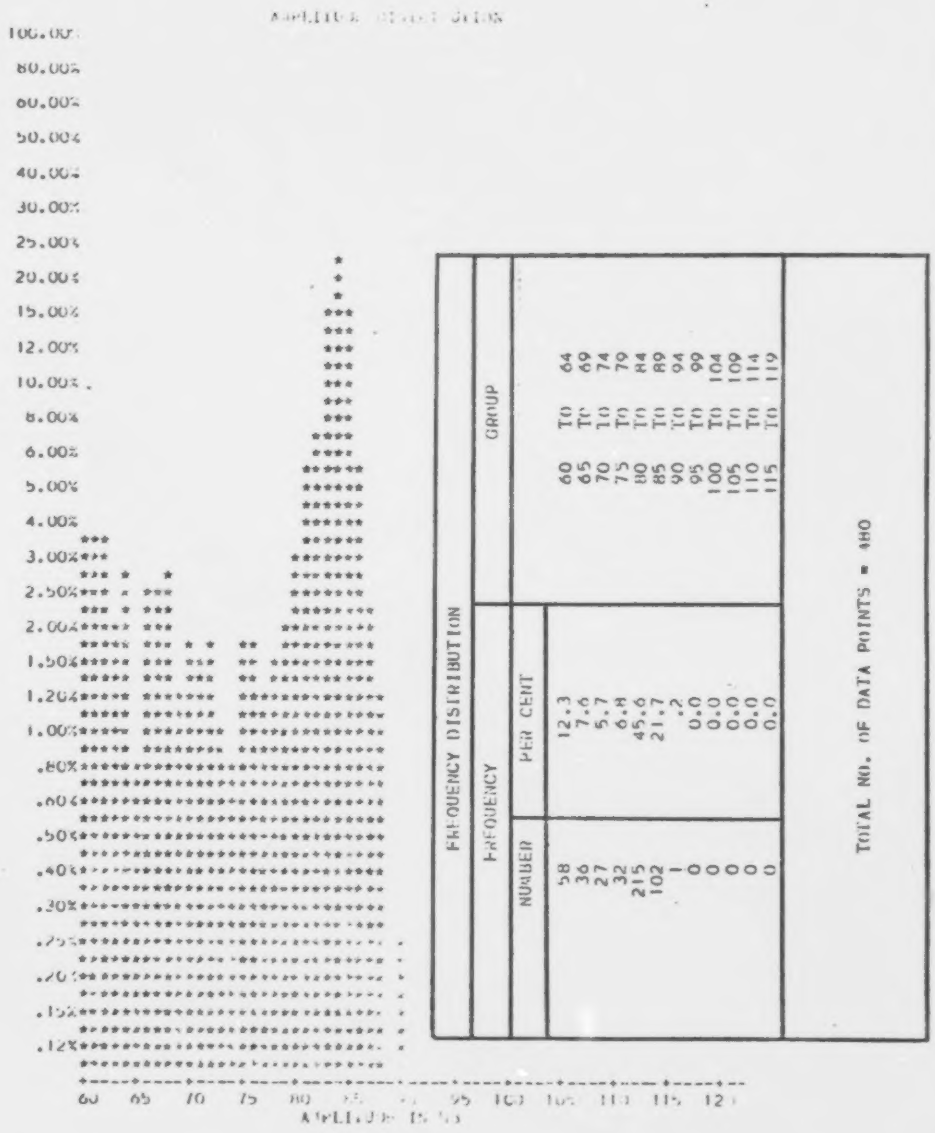

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
58	12.3	60 TO 64
36	7.6	65 TO 69
27	5.7	70 TO 74
32	6.8	75 TO 79
215	45.6	80 TO 84
102	21.7	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

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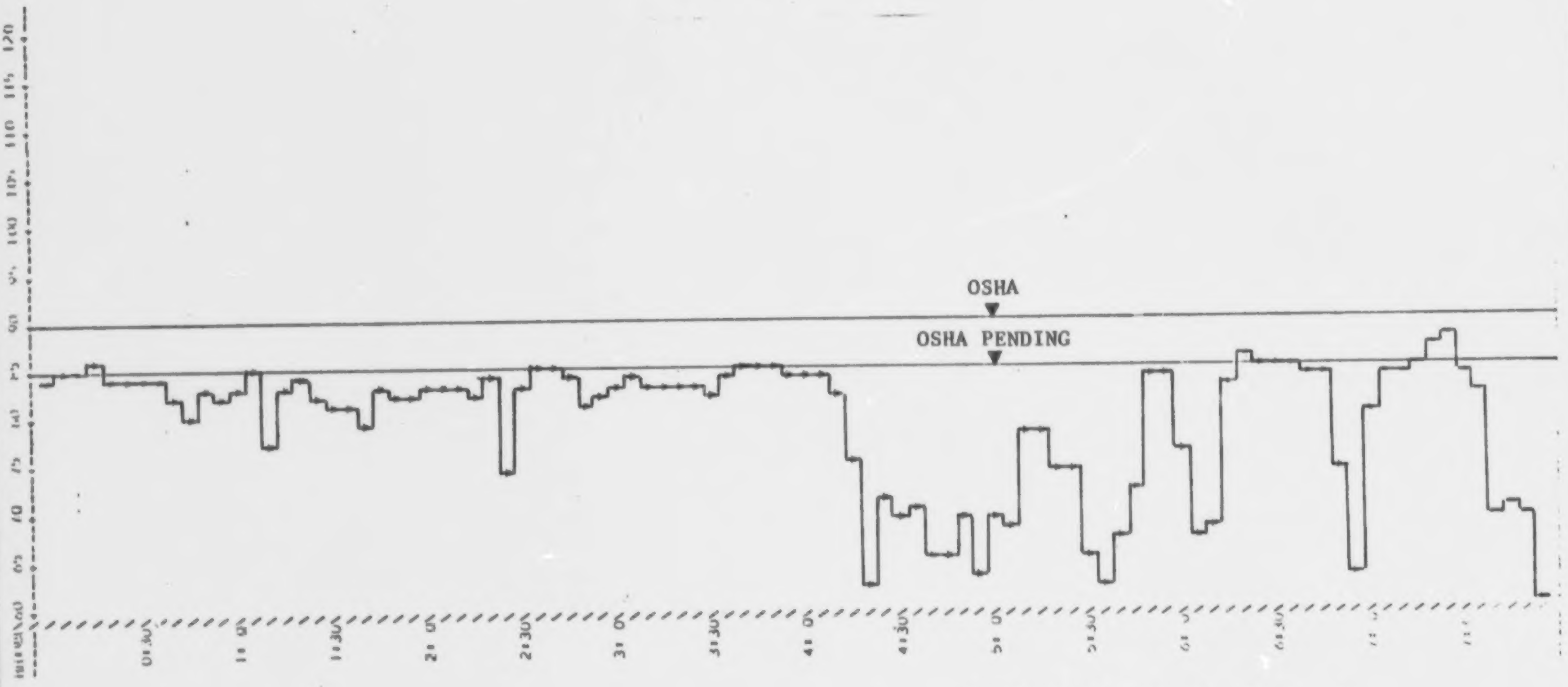
COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



㉒

Operator
(E-area)

```
[illegible]
 1  26  90  12[illegible]  63  64     4     1
  14960     114062  475
 75  85  85  84  85  85  86  [illegible]  [illegible]  [illegible]  80  86  87  85  85  85
 87  87  83  86  87  84  86  82  [illegible]  85  87  86  85  [illegible]  [illegible]  88
 86  85  83  93  87  87  86  [illegible]  [illegible]  89  89  89  [illegible]  84  84  88
 85  87  89  90  93  89  88  87  [illegible]  87  86  86  [illegible]  87  85  86
 85  84  82  83  83  86  86  86  87  87  86  86  [illegible]  85  87  85
 80  86  86  86  89  89  86  86  87  86  85  86  86  86  86  86
 86  86  86  85  84  87  86  86  85  85  85  85  85  85  85  84
 82  86  87  81  85  90  88  82  [illegible]  83  83  83  83  83  84  86
 86  84  89  87  87  86  85  83  84  85  83  84  81  83  84  84
 84  84  85  85  84  84  85  86  87  85  84  85  85  86  86  83
 82  83  82  83  82  83  83  83  84  84  84  84  82  83  84  84
 87  86  87  87  87  86  86  86  83  82  81  84  83  83  83  84
 88  86  92  86  86  86  84  85  85  86  85  84  84  84  86  85
 86  85  84  85  84  84  83  85  84  85  85  87  86  85  86  87
 87  86  87  86  85  85  85  84  84  82  81  78  79  84  85  85
 85  84  84  84  83  83  83  83  85  83  85  82  81  88  86  85
 84  85  85  85  86  85  84  86  82  82  75  70  80  80  80  80
 60  80  81  81  84  80  83  82  82  33  84  84  84  84  84  84
 84  85  83  75  81  75  65  65  71  76  61  61  64  60  61  67
 61  61  60  60  60  62  61  63  61  72  84  83  88  85  83  84
 83  83  83  84  84  85  84  85  85  85  84  85  84  84  84  85
 85  84  84  85  84  84  83  83  86  85  85  85  86  85  84  85
 65  85  86  83  86  84  84  86  36  87  85  86  87  37  86  87
 86  87  87  87  87  87  86  86  86  87  86  85  83  85  85  84
 85  85  86  84  84  83  83  82  81  83  84  83  84  84  83  83
 83  83  83  83  83  83  83  83  83  83  84  83  83  93  83  83
 83  79  78  85  81  76  60  69  76  81  84  84  83  82  84  84
 80  84  87  85  84  84  84  85  65  85  84  83  86  44  84  85
 84  84  84  84  84  85  84  85  85  84  83  82  85  84  83  83
 84  84  84  83  83  77  78  71  71  72  77  60  60  60  60  60
*EOF


ENTER LOG DATE (DD/MM/YR) : 28/06/79

ENTER SITE CODE (5 CHARS) : MILDF
ENTER USER CODE (4 CHARS) : 2393
 ENTER JOB CODE (3 CHARS) : 170


   DATA LOGGED :28 JUNE 1979                DATA ANALYZED : 28  AUG 1979
       LOGGER : 05-301/26                        SITE CODE : MILDF
SERIAL NUMBER : 1220                              JOB CODE : 170
     BASELINE : 60 DB                            USER CODE : 2393
DYNAMIC RANGE : 64 DB                            THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  114062
TEST DURATION =    7:55:15                    STANDBY TIME =   1: 2:20

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 475
PERIOD =   1 MINUTES

TIME          LOSHA                       N.E.I.
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1      87.1       87.1          [illegible]       8.39
   2      85.7       [illegible]          [illegible]      15.33
   3      84.5       [illegible]          [illegible]      21.12
   4      85.2       [illegible]          [illegible]      27.52
   5      82.4       [illegible]          [illegible]      31.86
   6      [illegible]       [illegible]          [illegible]      [illegible]
   7      [illegible]       [illegible]          [illegible]      [illegible]
   8      83.0       84.6          4.312      46.61
MIN. COMP. =  80 DB                 MAX. COMP. =  93 DB
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

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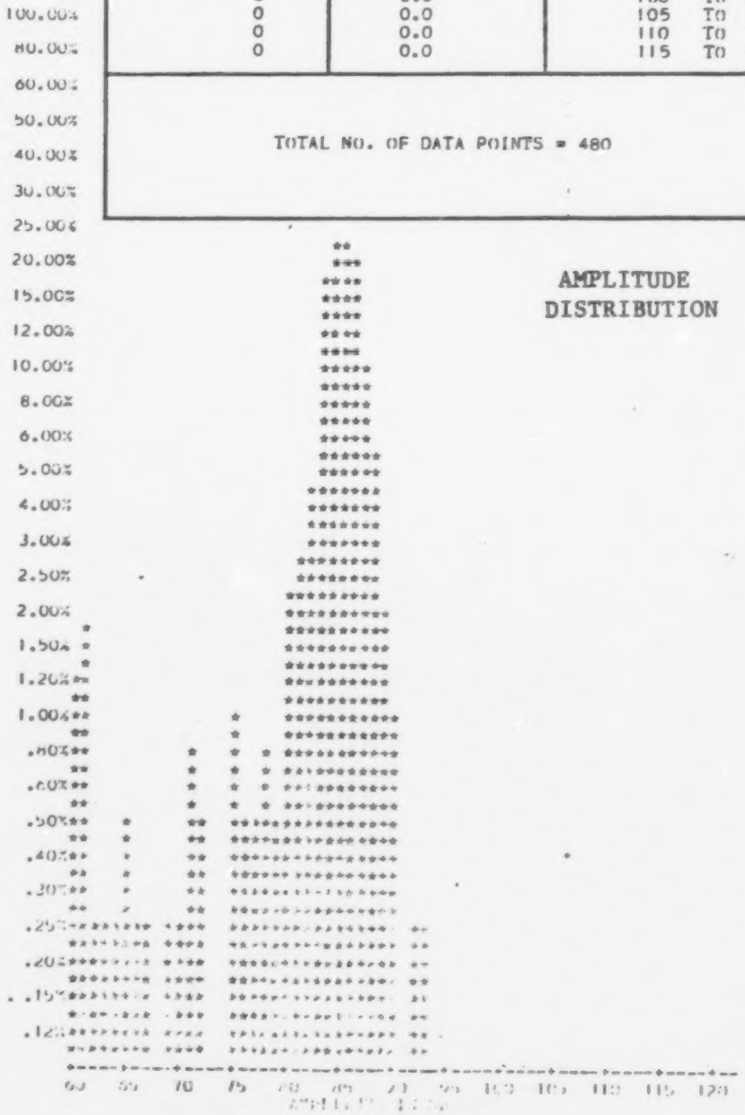
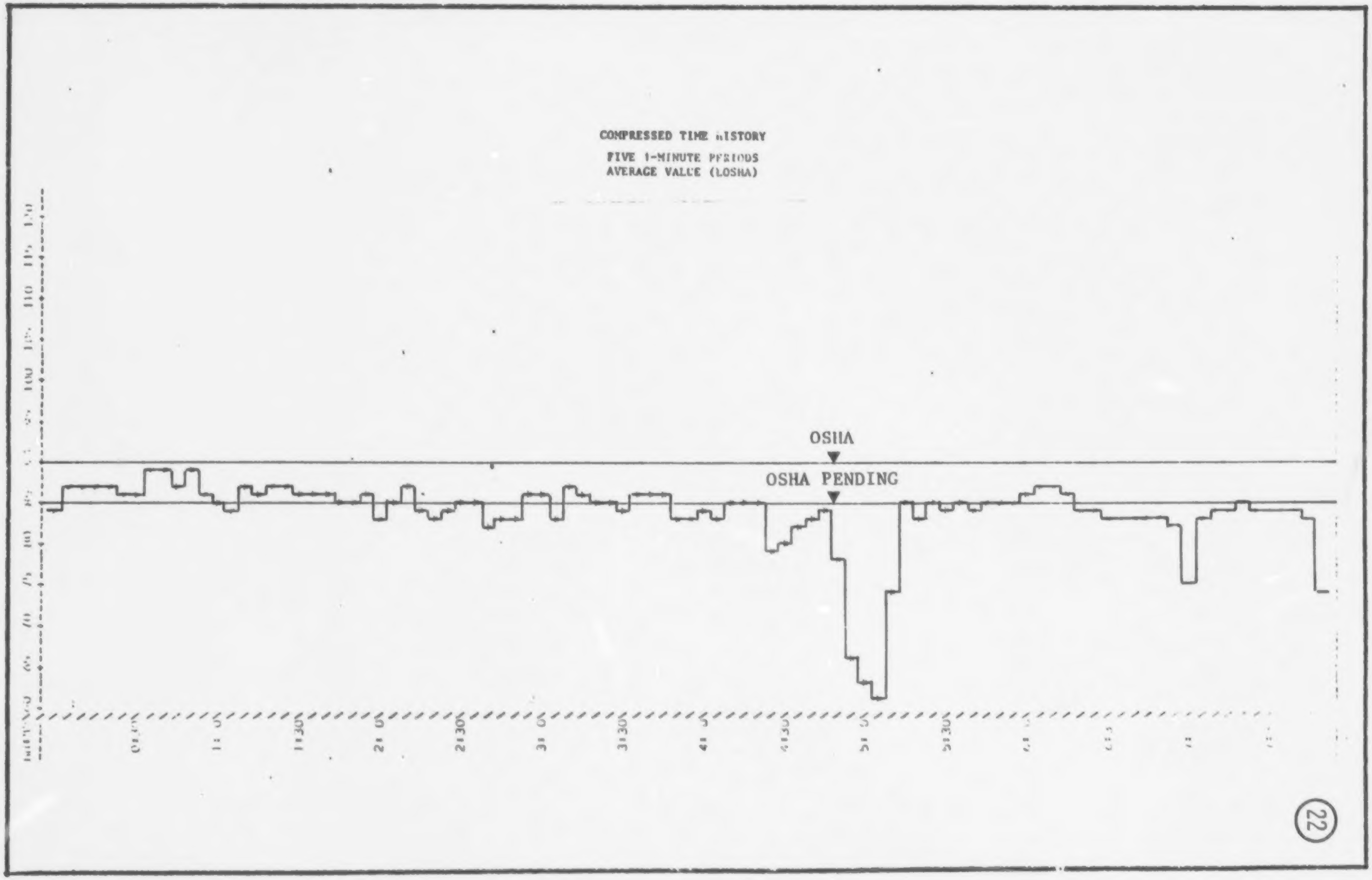
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
20	4.2	60 TO 64
5	1.0	65 TO 69
6	1.3	70 TO 74
13	2.7	75 TO 79
199	41.5	80 TO 84
231	48.1	85 TO 89
6	1.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



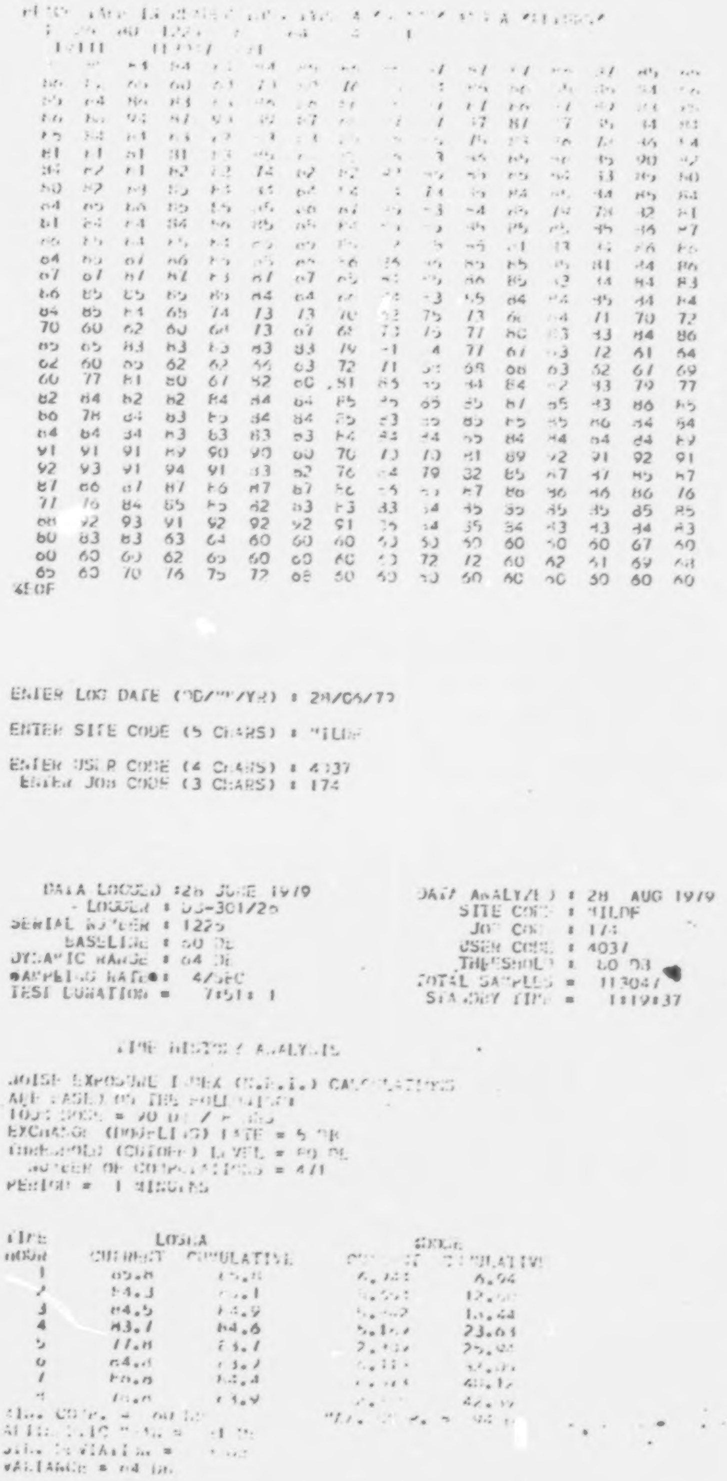
AMPLITUDE
DISTRIBUTION

Number of computations = 475


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
100
110
1:30
2:30
3:30
4:30
5:30
22

(23)

Operator (E-area)



```
[illegible]
[illegible]
[illegible]
[illegible] 84 84 [illegible] 84 [illegible] [illegible] [illegible] 87 87 87 [illegible] 87 85 [illegible]
86 [illegible] 76 60 63 73 [illegible] 76 [illegible] [illegible] 85 86 [illegible] 85 84 [illegible]
85 84 86 83 [illegible] 86 [illegible] [illegible] [illegible] [illegible] 77 86 [illegible] 87 84 [illegible]
86 86 93 87 93 [illegible] 87 [illegible] [illegible] 7 87 87 77 [illegible] 84 83
85 84 84 84 72 [illegible] [illegible] [illegible] [illegible] [illegible] 75 [illegible] 76 76 86 84
81 81 81 81 83 [illegible] [illegible] [illegible] [illegible] 3 85 85 [illegible] 85 90 [illegible]
86 82 81 82 72 74 82 82 [illegible] [illegible] [illegible] [illegible] [illegible] 83 86 80
80 82 83 85 83 [illegible] 84 [illegible] [illegible] 74 [illegible] 84 [illegible] 84 85 84
84 85 86 85 85 [illegible] 80 87 [illegible] -3 -4 85 74 78 82 81
81 84 84 84 86 85 85 [illegible] [illegible] [illegible] 85 85 [illegible] 85 86 87
86 85 84 85 84 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 81 83 [illegible] 86 86
84 85 87 86 85 85 85 86 85 [illegible] 85 85 [illegible] 81 84 86
87 87 87 87 83 87 87 85 [illegible] [illegible] 86 85 82 84 84 83
86 85 85 85 85 84 84 [illegible] [illegible] -3 65 84 84 85 84 84
84 85 84 65 74 73 73 70 72 75 73 66 64 71 70 72
70 60 62 60 64 73 67 68 73 75 77 80 83 83 84 86
85 65 83 83 83 83 83 79 -1 4 77 67 83 72 61 64
62 60 85 62 62 66 63 72 71 53 68 68 63 62 67 69
60 77 81 80 67 82 80 ,81 85 85 84 84 82 83 79 77
82 84 82 82 84 84 84 85 85 65 85 87 85 83 86 85
86 78 84 83 85 84 84 85 83 85 85 85 85 86 84 84
84 84 84 83 83 83 83 84 84 84 85 84 84 84 84 89
91 91 91 89 90 90 80 70 73 73 81 89 92 91 92 91
92 93 91 94 91 83 82 76 84 79 32 85 87 87 85 87
87 86 87 87 86 87 87 86 85 83 87 86 86 86 86 76
77 76 84 85 85 82 83 83 83 84 85 85 85 85 85 85
88 92 93 91 92 92 92 91 75 84 85 84 83 83 84 83
80 83 83 63 64 60 60 60 63 53 60 60 60 60 67 60
60 60 60 62 65 60 60 60 63 72 72 60 62 61 69 68
65 60 70 76 75 72 68 60 60 60 60 60 60 50 60 60
%EOF


ENTER LOG DATE (DD/MM/YR) : 28/06/79

ENTER SITE CODE (5 CHARS) : MILDF

ENTER USER CODE (4 CHARS) : 4037
 ENTER JOB CODE (3 CHARS) : 174


   DATA LOGGED :26 JUNE 1979          DATA ANALYZED : 28  AUG 1979
     - LOGGER : DS-301/26                 SITE CODE : MILDF
SERIAL NUMBER : 1225                       JOB CODE : 174
     BASELINE : 60 DB                     USER CODE : 4037
DYNAMIC RANGE : 64 DB                     THRESHOLD :  60 DB
SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  113047
TEST DURATION =   7:51: 1              STANDBY TIME =   1:19:37

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 471
PERIOD = 1 MINUTES

TIME           LOSHA                    %DOSE
HOUR    CURRENT   CUMULATIVE      CURRENT   CUMULATIVE
  1       85.8       85.8         [illegible]      6.94
  2       84.3       [illegible]  [illegible]      12.[illegible]
  3       84.5       84.9         [illegible]      1[illegible].44
  4       83.7       84.6         5.1[illegible]   23.61
  5       77.8       83.7         2.[illegible]    25.[illegible]
  6       84.4       83.7         [illegible]      [illegible]
  7       86.8       84.4         [illegible]      40.12
  8       76.8       83.9         [illegible]      42.[illegible]
SLM. CONT. = [illegible]               %TWA. [illegible]
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]4 DB
```

FREQUENCY DISTRIBUTION

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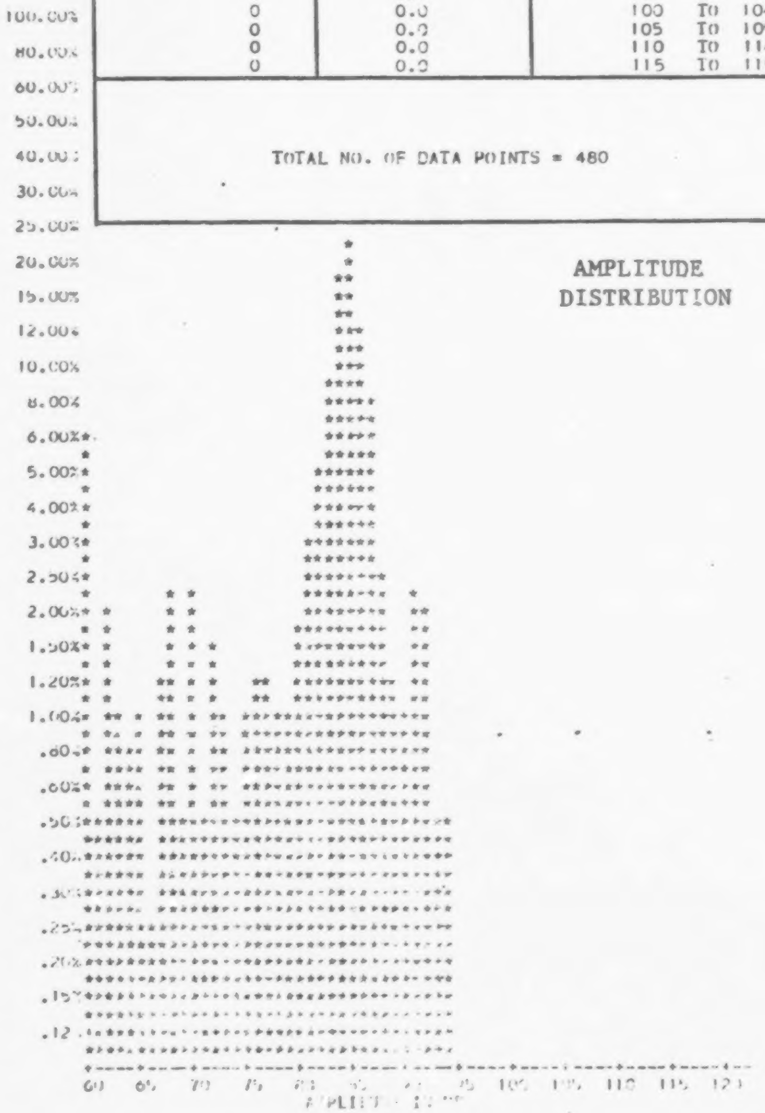
FREQUENCY		GROUP
NUMBER	PER CENT	
79	16.5	60 TO 64
37	7.7	65 TO 69
21	4.4	70 TO 74
47	9.8	75 TO 79
214	44.6	80 TO 84
79	16.5	85 TO 89
3	.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

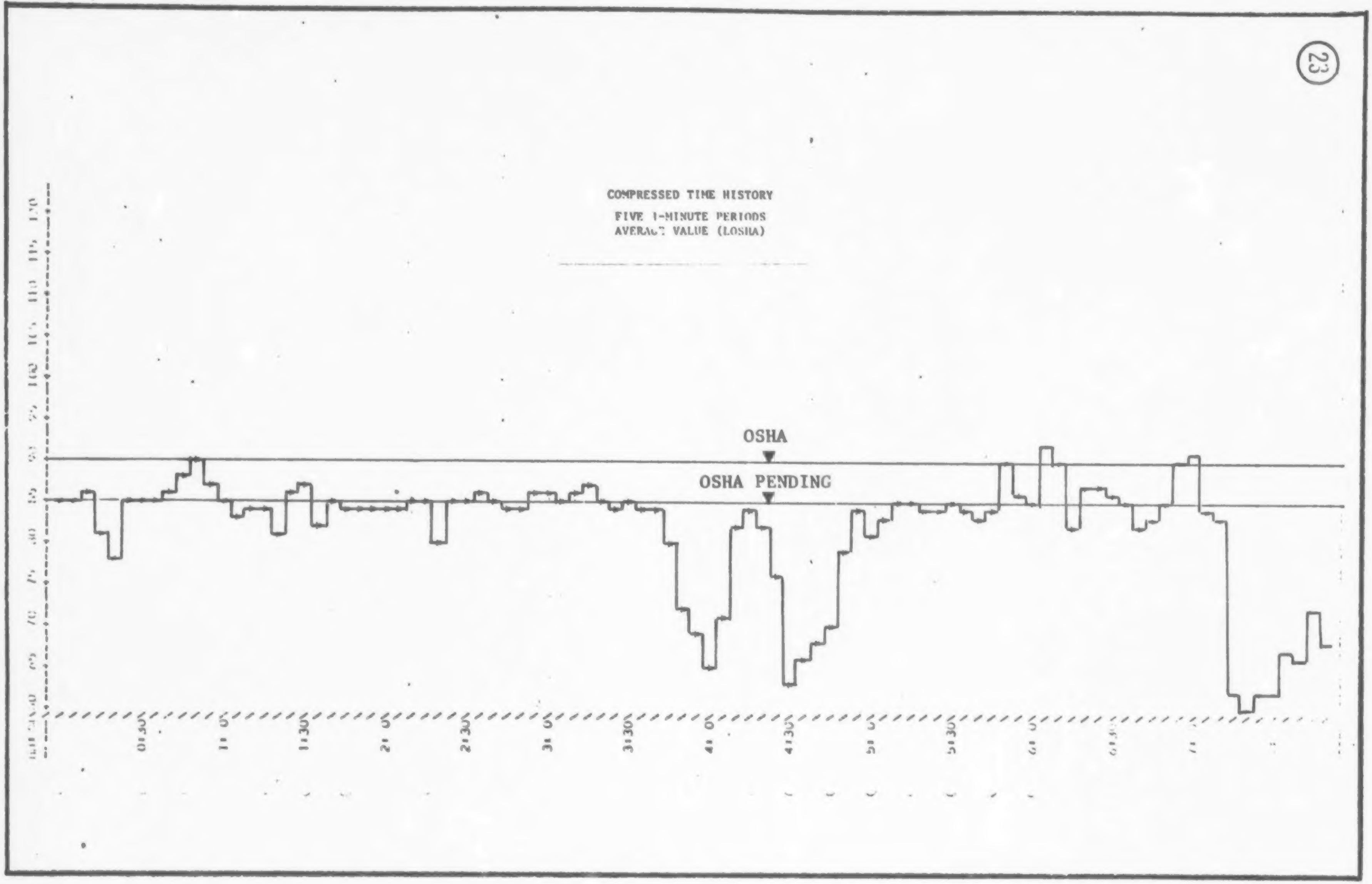
TOTAL NO. OF DATA POINTS = 480

AMPLITUDE DISTRIBUTION

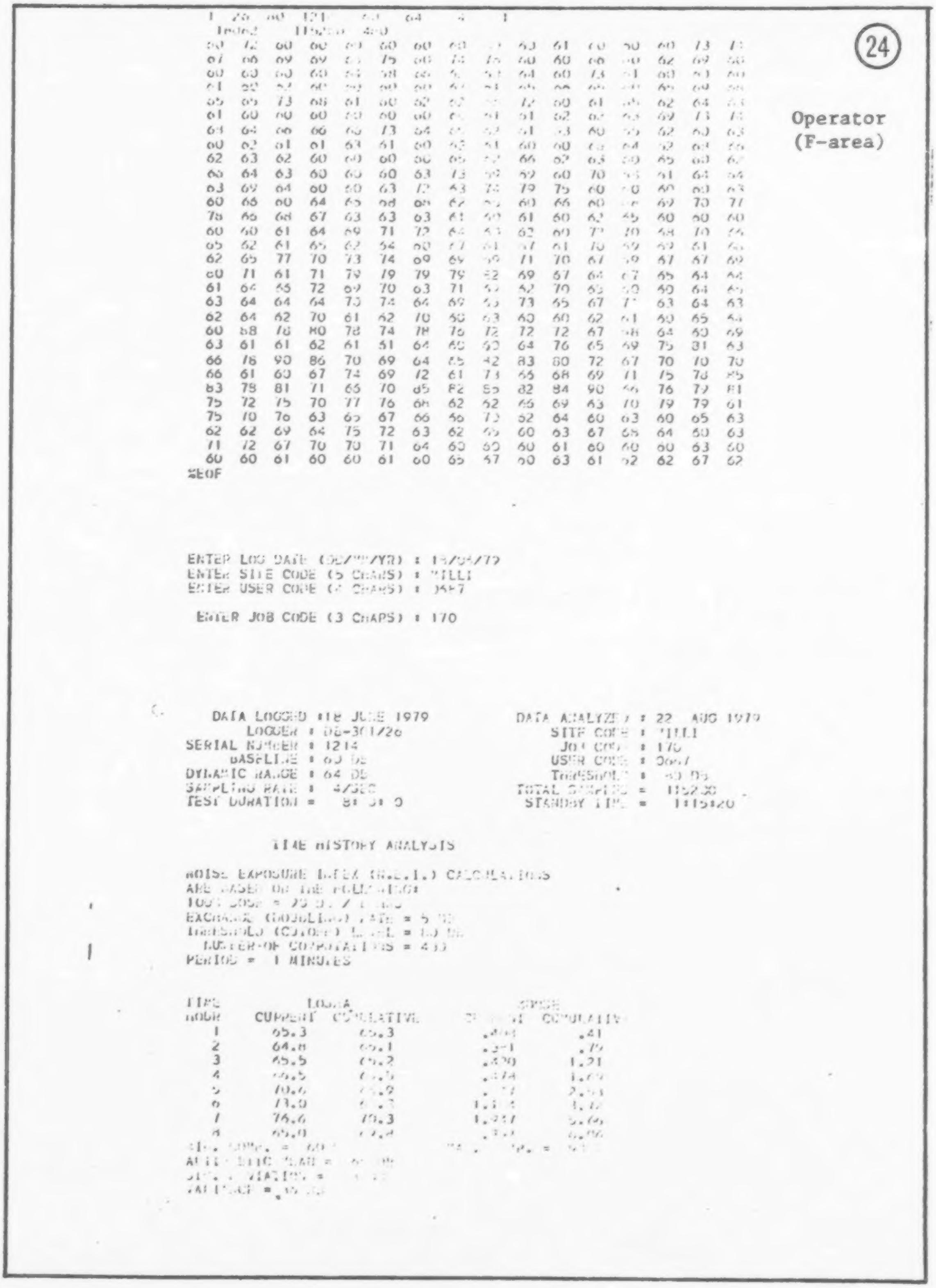


Number of computations = 471

㉓



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



```
 1  20  00  121    [illegible]    64    4    1
  1moe2     115230   420
 60  72  60  60  60  60  60  60  [illegible]  63  61  60  50  60  73  73
 67  66  69  69  [illegible]  75  60  74  75  60  60  66  60  62  69  60
 60  63  60  60  64  58  66  [illegible]  61  64  60  73  61  60  61  60
 61  59  57  60  59  60  60  61  61  [illegible]  66  [illegible]  [illegible]  65  69  [illegible]
 65  65  73  68  61  60  62  62  [illegible]  72  60  61  [illegible]  62  64  63
 61  60  60  60  60  60  60  60  61  51  62  62  63  69  73  73
 63  64  66  66  65  73  64  65  63  61  63  60  55  62  63  63
 60  62  61  61  63  61  60  62  61  60  60  63  64  62  63  60
 62  63  62  60  60  60  60  65  62  66  62  63  60  65  63  62
 65  64  63  60  65  60  63  73  59  59  60  70  53  61  64  64
 63  69  64  60  60  63  72  63  74  79  75  60  60  60  63  63
 60  66  60  64  65  68  68  62  [illegible]  60  66  60  [illegible]  69  70  77
 75  66  68  67  63  63  63  61  59  61  60  62  65  60  60  60
 60  60  61  64  69  71  72  64  63  62  60  72  70  68  70  66
 65  62  61  65  62  54  60  67  61  57  61  70  59  59  61  65
 62  65  77  70  73  74  69  65  59  71  70  67  59  67  67  69
 60  71  61  71  79  79  79  79  52  69  67  64  67  65  64  64
 61  64  65  72  69  70  63  71  59  62  70  65  60  60  64  65
 63  64  64  64  73  74  64  69  63  73  65  67  7[illegible]  63  64  63
 62  64  62  70  61  62  70  50  63  60  60  62  61  60  65  64
 60  68  78  80  78  74  78  76  72  72  72  67  58  64  60  69
 63  61  61  62  61  51  64  65  60  64  76  65  69  75  81  63
 66  76  90  86  70  69  64  65  42  83  80  72  67  70  70  70
 66  61  60  67  74  69  72  61  73  65  68  69  71  75  78  85
 63  78  81  71  65  70  85  82  55  82  84  90  66  76  79  81
 75  72  75  70  77  76  68  62  62  65  69  63  70  79  79  61
 75  70  76  63  65  67  66  56  73  62  64  60  63  60  65  63
 62  62  69  64  75  72  63  62  65  60  63  67  68  64  60  63
 71  72  67  70  70  71  64  63  60  60  61  60  60  60  63  60
 60  60  61  60  60  61  60  65  57  60  63  61  62  62  67  62
%EOF



ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLI
ENTER USER CODE (4 CHARS) : 0987

 ENTER JOB CODE (3 CHARS) : 170



   DATA LOGGED :18 JUNE 1979              DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILLI
SERIAL NUMBER : 1214                            JOB CODE : 170
      BASELINE : 60 DB                         USER CODE : 0987
DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115230
TEST DURATION =    8: 0: 0                  STANDBY TIME =   1:15:20

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                      OSHA
HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1      65.3       65.3            .408        .41
   2      64.8       65.1            .381        .79
   3      65.5       65.2            .420       1.21
   4      66.5       65.5            .474       1.69
   5      70.6       66.9            .[illegible]       2.[illegible]
   6      73.0       6[illegible].3           1.[illegible]       3.[illegible]
   7      76.6       70.3           1.[illegible]7       5.[illegible]
   8      65.0       [illegible]            .[illegible]       6.[illegible]
SIM. DOSE. = 60[illegible]                 [illegible] = [illegible]
ARITHMETIC MEAN = [illegible] DB
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

(24)

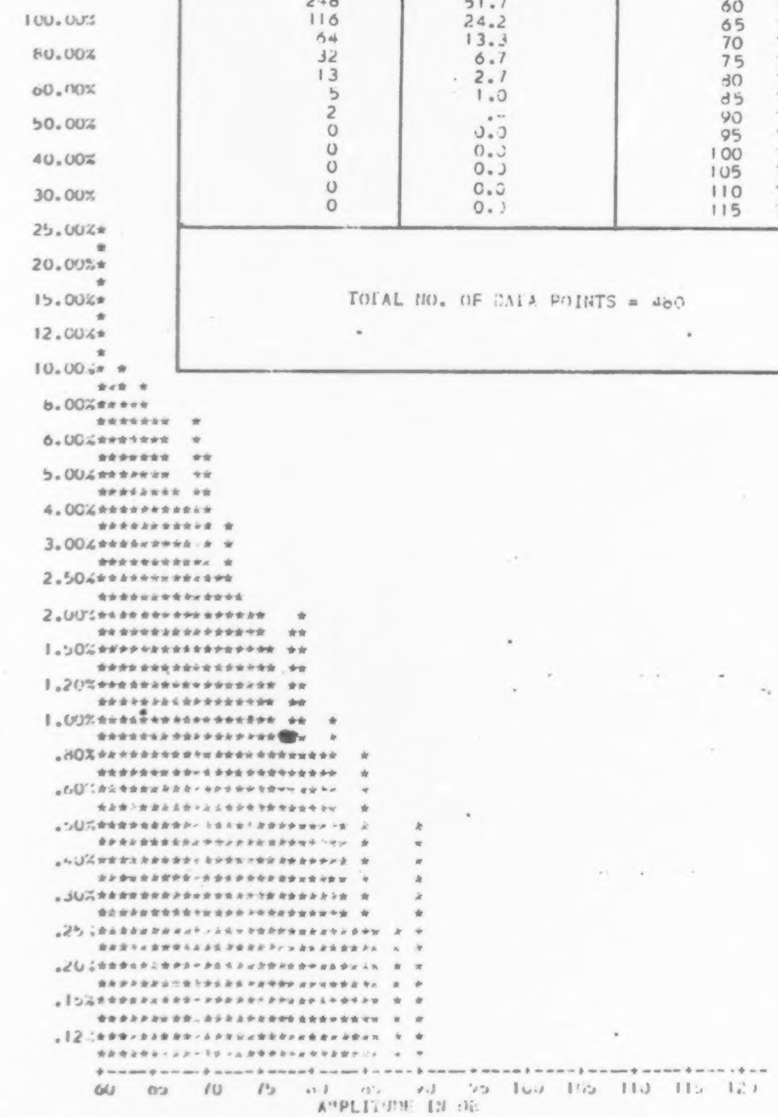
Operator
(F-area)

㉔

AMPLITUDE DISTRIBUTION

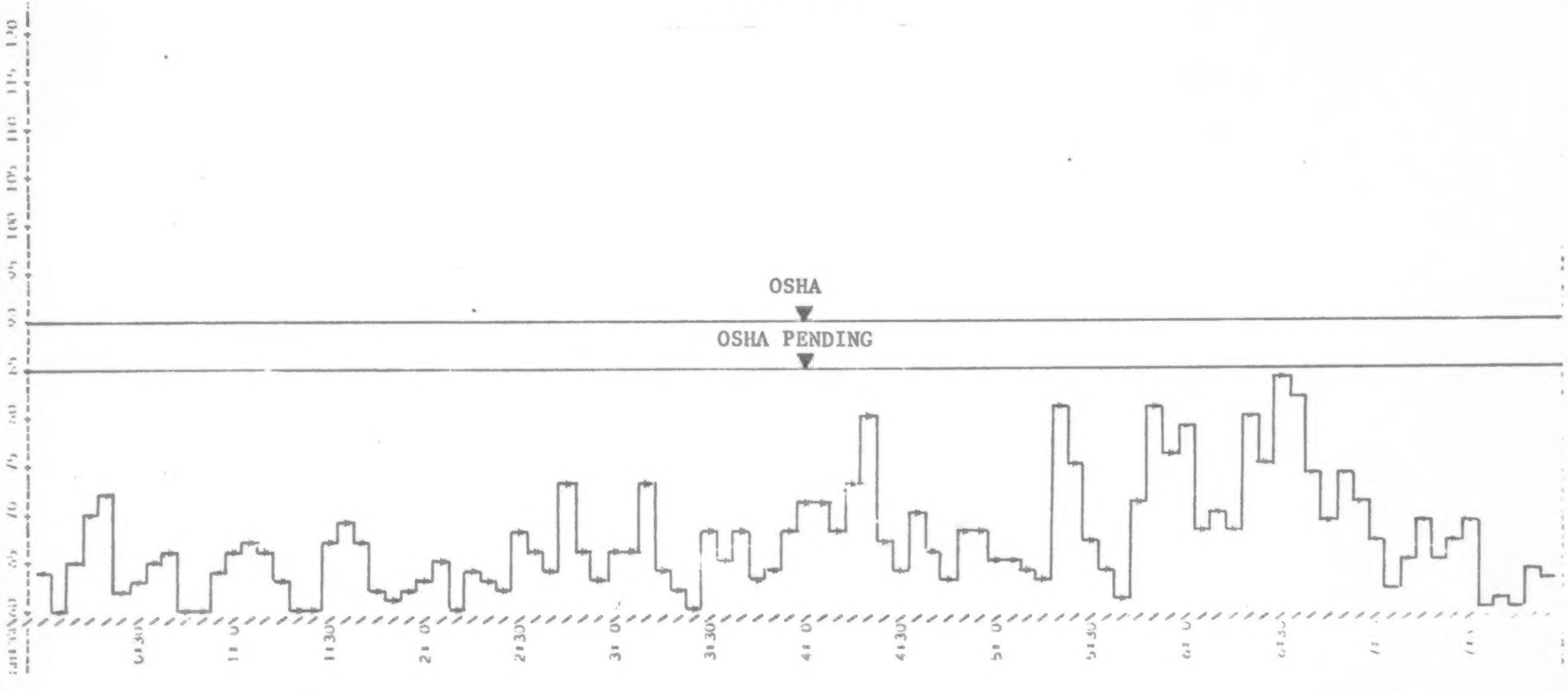
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
248	51.7	60 TO 64
116	24.2	65 TO 69
64	13.3	70 TO 74
32	6.7	75 TO 79
13	2.7	80 TO 84
5	1.0	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

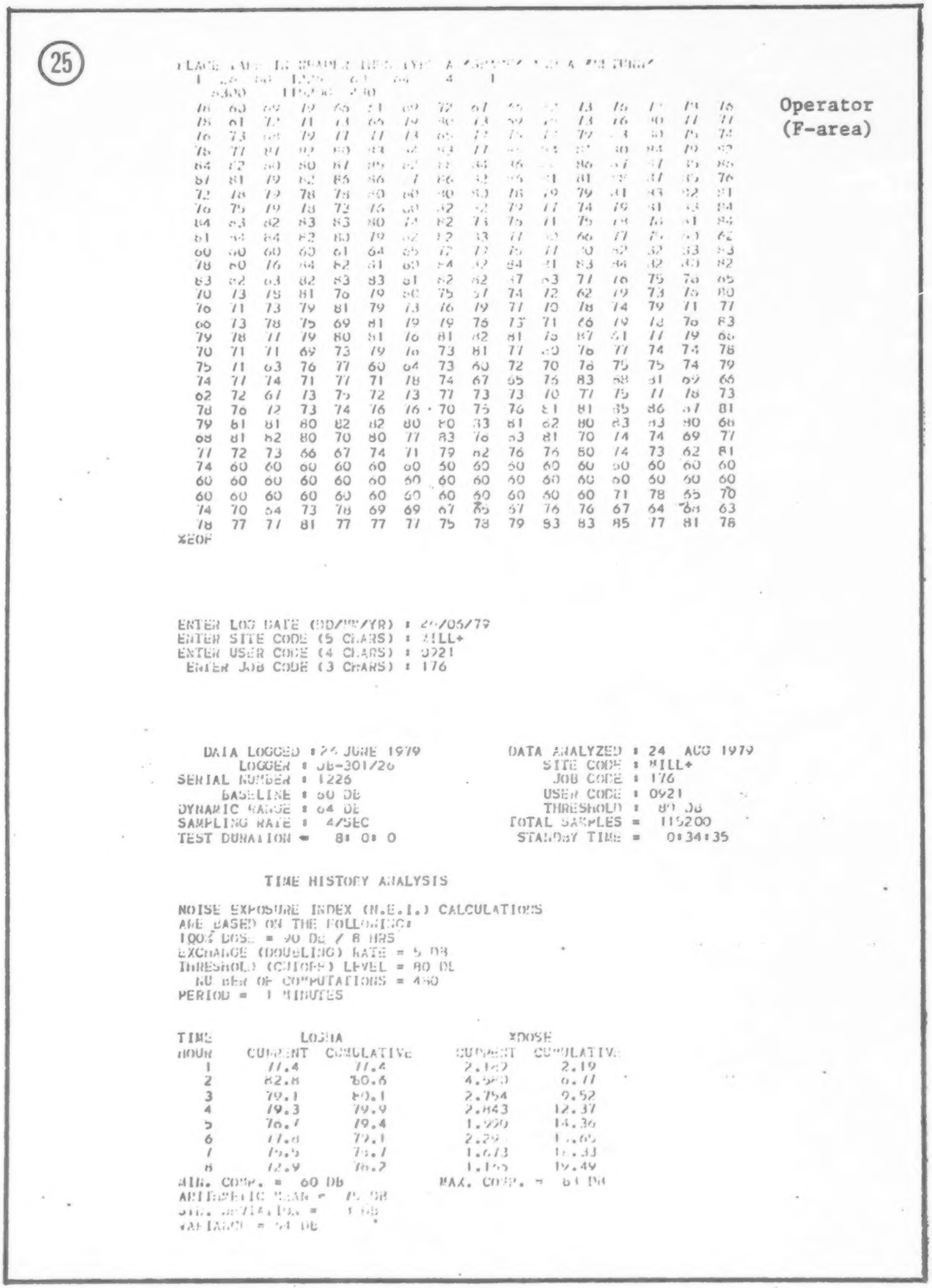


Number of computations = 480

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



㉔



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**Operator
(F-area)**

```
[illegible]
  1  [illegible]  1225  [illegible]  4   1
   6300     115200  230
  76  63  69  79  65  71  69  72  61  65  [illegible]  73  76  [illegible]  79  76
  78  61  72  71  73  65  79  80  73  59  [illegible]  73  76  80  77  77
  76  73  68  79  77  77  73  65  77  75  77  79  83  80  75  74
  78  77  87  82  80  83  82  83  77  [illegible]  84  87  80  84  79  82
  84  82  80  80  87  85  82  77  84  76  [illegible]  86  87  77  85  86
  87  81  79  82  85  86   7  86  82  85  81  81  82  87  85  76
  72  78  79  78  78  80  80  80  83  78  79  79  81  83  82  81
  76  75  79  78  72  76  80  82  82  79  77  74  79  81  83  84
  84  83  82  83  83  80  73  82  73  75  71  75  78  76  81  84
  81  84  84  82  80  79  82  72  73  77  [illegible]  66  77  75  80  62
  60  60  60  60  61  64  65  72  72  75  77  70  82  82  83  83
  78  80  76  84  82  81  60  84  82  84  81  83  84  82  80  82
  83  82  63  82  83  83  81  82  82  87  83  71  76  75  70  65
  70  73  79  81  76  79  80  75  57  74  72  62  79  73  75  80
  76  71  73  79  81  79  73  76  79  71  70  78  74  79  71  77
  66  73  78  75  69  81  79  79  76  73  71  66  79  78  76  83
  79  78  77  79  80  81  76  81  82  81  75  87  61  77  79  66
  70  71  71  69  73  79  76  73  81  77  69  76  77  74  74  78
  75  71  63  76  77  60  64  73  60  72  70  78  75  75  74  79
  74  77  74  71  77  71  78  74  67  65  75  83  58  81  69  66
  62  72  67  73  75  72  73  77  73  73  70  77  75  77  78  73
  78  76  72  73  74  76  76 · 70  75  76  81  81  85  86  87  81
  79  61  81  80  82  82  80  80  83  81  62  80  83  83  80  68
  68  81  82  80  70  80  77  83  76  63  81  70  74  74  69  77
  77  72  73  66  67  74  71  79  82  76  76  80  74  73  62  81
  74  60  60  60  60  60  60  50  60  50  60  60  50  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  71  78  65  70
  74  70  64  73  78  69  69  67  85  57  76  76  67  64  68  63
  78  77  77  81  77  77  77  75  78  79  93  83  85  77  81  78
%EOF



ENTER LOG DATE (DD/MM/YR) : 24/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0921
 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED : 24 JUNE 1979                DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : MILL+
 SERIAL NUMBER : 1226                             JOB CODE : 176
      BASELINE : 60 DB                           USER CODE : 0921
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0                   STANDBY TIME =   0:34:35

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                          %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1       77.4       77.4              2.182      2.19
   2       82.8       80.6              4.590      6.77
   3       79.1       80.1              2.754      9.52
   4       79.3       79.9              2.843     12.37
   5       76.7       79.4              1.990     14.36
   6       77.8       79.1              2.29[illegible]     1[illegible].65
   7       75.5       78.7              1.673     1[illegible].33
   8       72.9       78.2              1.155     19.49
MIN. COMP. =  60 DB                  MAX. COMP. =  8[illegible] DB
ARITHMETIC MEAN =  75 DB
STD. DEVIATION =   [illegible] DB
VARIANCE = 54 DB
```

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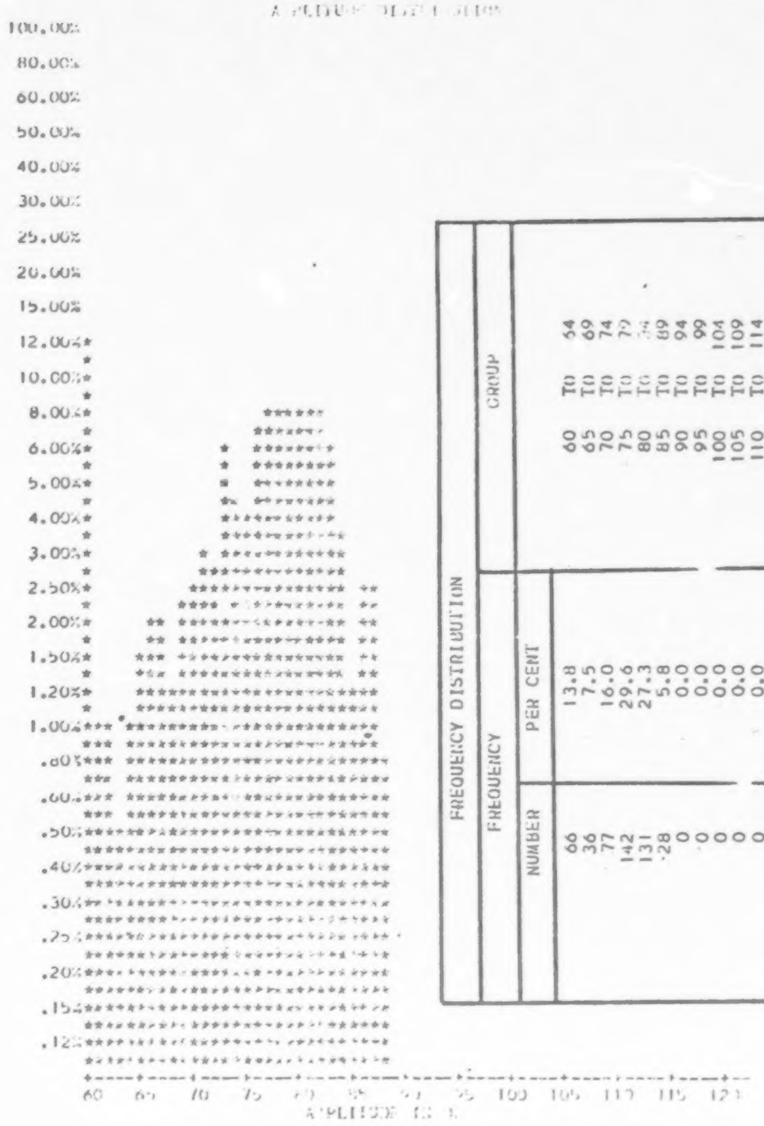


FREQUENCY DISTRIBUTION

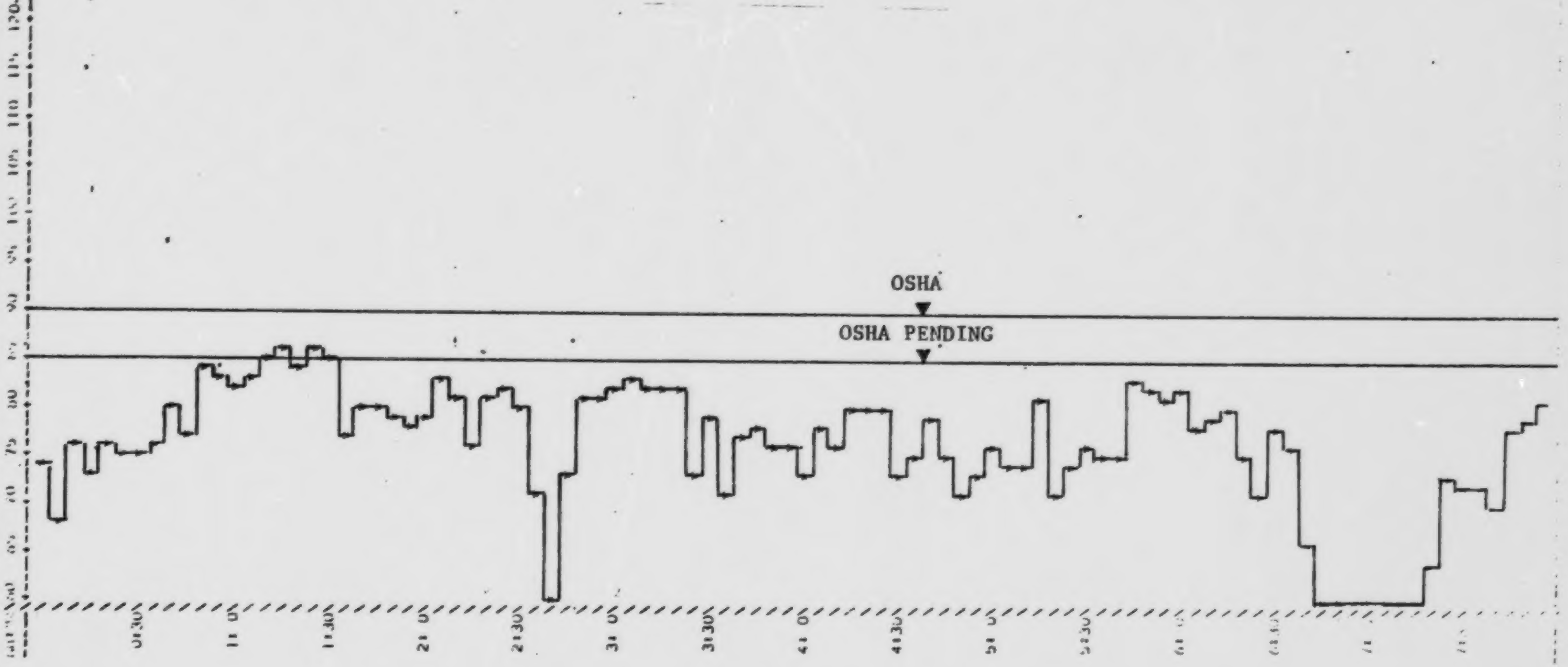
FREQUENCY NUMBER	FREQUENCY PER CENT	GROUP
66	13.8	60 TO 64
36	7.5	65 TO 69
77	16.0	70 TO 74
142	29.6	75 TO 79
131	27.3	80 TO 84
28	5.8	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

㉕

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(26)

Operator (F-area)

```
PEAK  [illegible]

  1  26  80  1214  [illegible]  1
     95      [illegible]
  82  85  84  85  85  84  84  [illegible]  [illegible]  85  81  84  84  85  83  70
  84  79  83  84  84  84  85  [illegible]  [illegible]  82  [illegible]  81  76  84  85  84
  86  86  85  84  83  81  81  [illegible]  [illegible]  81  [illegible]  [illegible]  83  84  85  [illegible]
  84  83  85  [illegible]  84  85  86  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  84  81  [illegible]  [illegible]
  85  88  [illegible]  [illegible]  [illegible]  88  87  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  84  [illegible]  [illegible]  [illegible]
  85  83  85  83  85  85  84  [illegible]  [illegible]  84  84  [illegible]  86  85  85  85
  85  87  85  86  85  84  81  85  [illegible]  84  85  85  84  84  85  82
  82  83  84  84  85  83  86  83  [illegible]  86  84  84  83  84  85  85
  87  89  [illegible]  83  84  83  [illegible]  [illegible]  [illegible]  83  [illegible]  [illegible]  85  84  84  84
  84  84  83  85  84  84  84  [illegible]  [illegible]  85  85  84  84  84  87  [illegible]
  89  88  85  85  86  86  83  83  [illegible]  84  87  84  85  83  84  84
  85  87  85  85  87  88  86  [illegible]  83  83  84  84  83  84  83  85
  84  82  83  84  82  85  87  [illegible]  82  83  83  84  84  83  [illegible]  [illegible]
  87  86  85  85  84  83  84  84  [illegible]  83  84  84  83  86  83  85
  85  84  84  85  84  85  84  84  [illegible]  84  83  83  83  83  84  84
  80  72  73  83  69  80  80  82  [illegible]  84  86  85  85  85  87  86
  85  85  84  85  84  83  83  82  83  84  84  85  83  83  83  82
  82  81  80  80  67  69  80  80  [illegible]  82  85  84  82  79  83  82
  80  85  83  83  82  83  84  84  [illegible]  85  85  84  83  83  83  85
  83  85  87  83  83  85  81  80  81  80  80  81  80  81  84  80
  81  81  81  82  81  82  81  81  81  81  81  82  81  82  83  84
  84  83  83  82  82  77  82  83  84  83  85  85  85  84  85  85
  83  82  79  80  79  81  82  82  83  82  85  83  83  75  83  84
  82  85  83  85  83  83  85  8C  83  83  83  83  83  83  81  84
  84  85  83  83  83  83  83  83  83  84  85  85  85  85  84  84
  84  85  87  84  82  80  83  85  72  81  82  81  82  84  82  80
  83  84  69  80  80  72  79  83  84  84  73  77  84  82  84  86
  86  84  83  80  82  81  81  82  81  73  82  82  82  82  82  83
  83  84  84  83  83  84  84  84  84  85  85  84  81  83  84  83
  84  83  83  84  83  84  84  85  84  82  83  82  82  82  82  76
%EOF
```

```
ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILF
ENTER USER CODE (4 CHARS) : 2393
 ENTER JOB CODE (3 CHARS) : 170
```

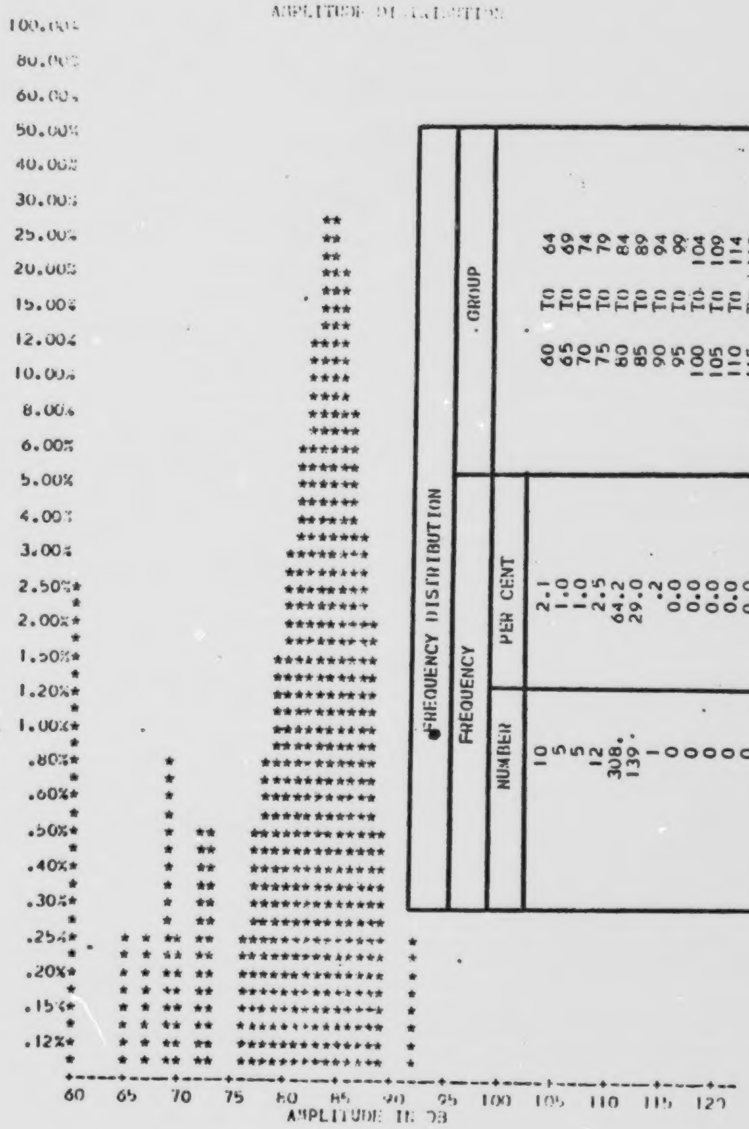
```
   DATA LOGGED :29 JUNE 1979              DATA ANALYZED : 26  AUG 1979
       LOGGER : DS-301/25                     SITE CODE : MILFF
SERIAL NUMBER : 1214                          JOB CODE : 170
     BASELINE : 60 DB                        USER CODE : 2393
DYNAMIC RANGE : 54 DB                        THRESHOLD : 60 DB
SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0               STANDBY TIME =   0: 0:24

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = [illegible] / 8 HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
 NUMBER OF COMPUTATIONS = [illegible]
PERIOD = 1 MINUTES

TIME           LOSHA                          DOSE
HOUR     CURRENT   CUMULATIVE        CURRENT    CUMULATIVE
   1       83.2        83.2           [illegible]     [illegible]
   2       85.0        84.5           [illegible]     11.62
   3       [illegible]   84.5           [illegible]     17.[illegible]
   4       84.3        84.6           [illegible]     2[illegible].[illegible]
   5       82.0        84.1           4.143       27.[illegible]
   6       82.3        83.9           4.317       31.[illegible]
   7       [illegible]   [illegible]      [illegible]     [illegible]
   8       [illegible]   [illegible]      [illegible]     41.[illegible]
 [illegible] = [illegible]                    [illegible] = [illegible]
ARITHMETIC MEAN =  82 DB
STD. DEVIATION =  [illegible]
VARIANCE = 1[illegible]
```

(26)



FREQUENCY DISTRIBUTION

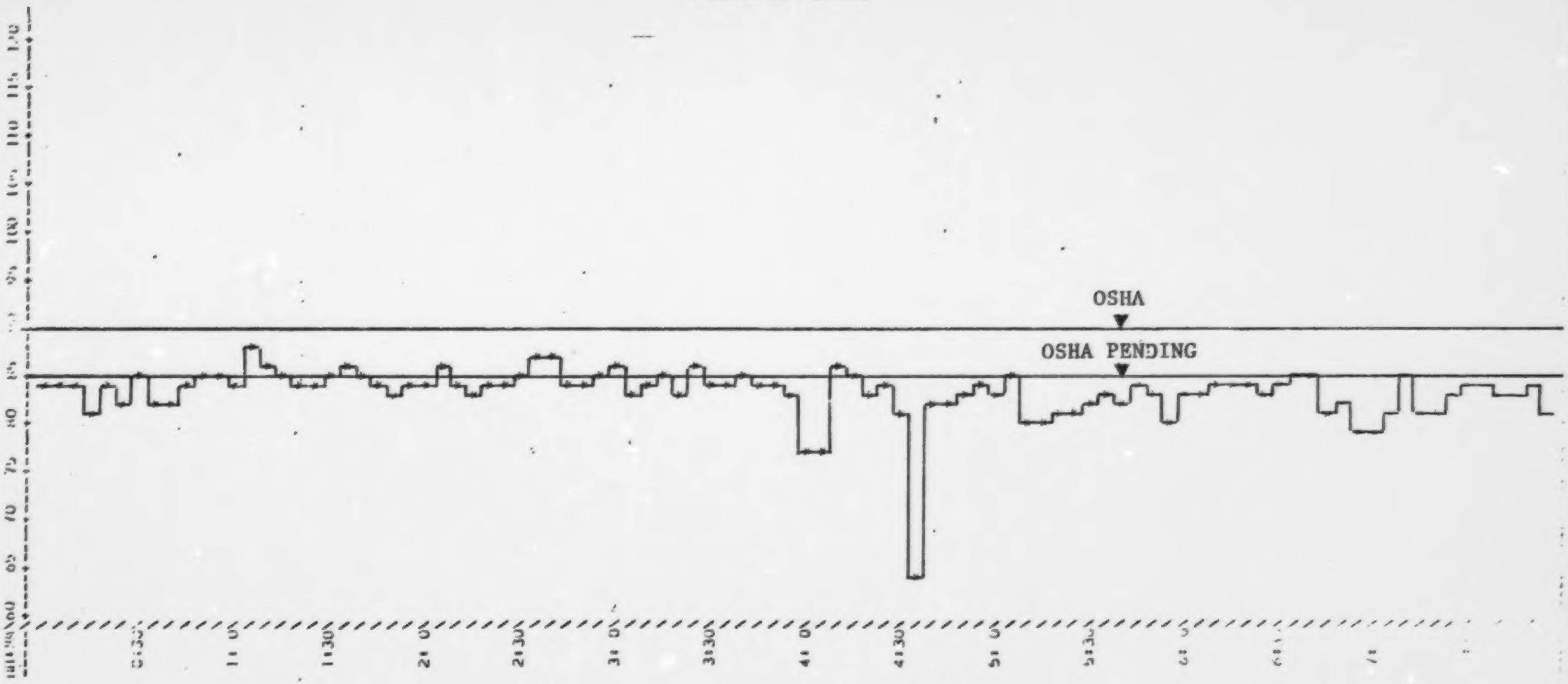
FREQUENCY		GROUP
NUMBER	PER CENT	
10	2.1	60 TO 64
5	1.0	65 TO 69
5	1.0	70 TO 74
12	2.5	75 TO 79
308.	64.2	80 TO 84
139.	29.0	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(27)

**Operator
(H-area)**

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  30  1217   60   64    4    1
   17096     47257   174
   60  61  60  71  60  67  65  75  68  60  71  64  72  69  74  75
   74  69  67  67  64  68  69  62  79  76  68  61  78  78  80  78
   81  82  82  79  80  80  80  77  75  76  75  80  77  79  75  80
   71  71  72  70  70  65  80  80  71  61  60  60  62  68  75  65
   73  74  84  80  82  71  77  61  65  60  65  64  65  72  68  75
   60  67  65  65  66  65  67  67  67  60  60  60  60  60  60  60
   60  60  60  71  60  65  60  60  60  60  60  60  60  60  60  60
   63  60  60  61  60  60  63  60  62  63  61  63  60  60  64  60
   77  71  69  73  77  76  78  76  78  76  75  75  68  65  69  69
   65  60  63  64  67  64  67  70  75  77  69  64  62  60  61  60
   60  60  82  84  80  61  65  76  64  64  60  60  72  81  79  69
   60  60  60  60  60  65  62  69  60  60  60  63  63  67  64  60
   70  62  62  71  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : VILL-
ENTER USER CODE (4 CHARS) : 3352
 ENTER JOB CODE (3 CHARS) : 174



   DATA LOGGED :18 JUNE 1979           DATA ANALYZED : 22  AUG 1979
        LOGGER : DS-301/26                   SITE CODE : VILL-
SERIAL NUMBER : 1217                         JOB CODE : 174
      BASELINE : 60 DB                       USER CODE : 3352
DYNAMIC RANGE : 64 DB                       THRESHOLD :  60 DB
SAMPLING RATE :  4/SEC               TOTAL SAMPLES =   47257
TEST DURATION =    3:16:54            STANDBY TIME =    1:11:14

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 196
PERIOD =  1 MINUTES

TIME          LOSHA                    *DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      75.0      75.0          1.570      1.57
   2      69.1      72.7           .687      2.26
   3      72.6      72.7          1.145      3.40
   4      64.6      72.3           .097      3.50
MIN. COMP. =  60 DB             MAX. COMP. =  85 DB
ARITHMETIC MEAN =  68 DB
STD. DEVIATION =    7 DB
VARIANCE = 49 DB
```

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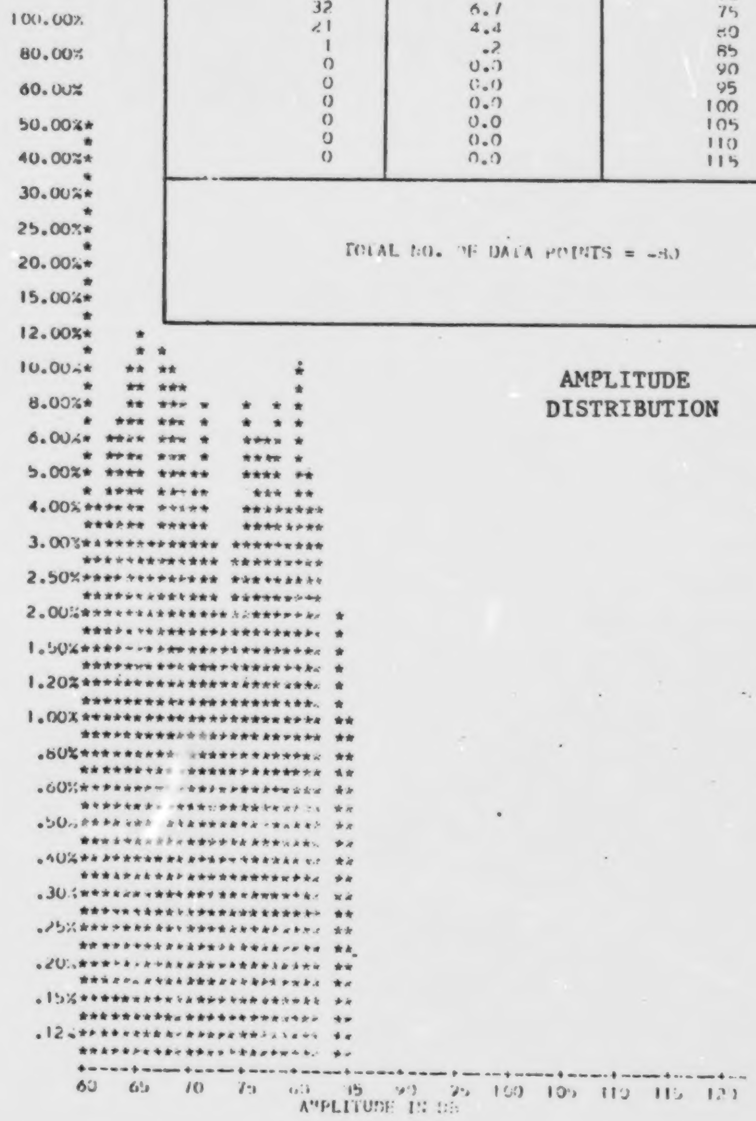
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
360	75.0	60 TO 64
45	9.4	65 TO 69
21	4.4	70 TO 74
32	6.7	75 TO 79
21	4.4	80 TO 84
1	.2	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

AMPLITUDE DISTRIBUTION



Number of computations = 196

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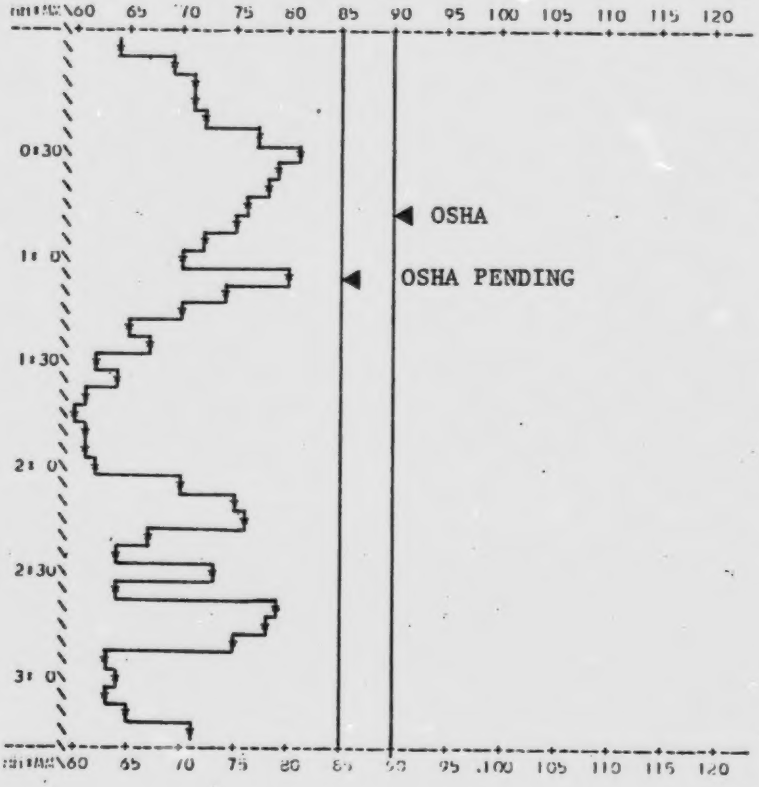
COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



◀ OSHA

◀ OSHA PENDING

(28)

Operator
(H-area)

```
[illegible]
 1  .5  80  1220   60   64    4    1
  21037     115?00   44?
  60  60  60  62  60  [illegible]  60  60  [illegible]  60  62  60  60  60  [illegible]  77
  71  70  67  69  70  67  61  [illegible]  1  70  75  71  [illegible]  [illegible]  7?  70
  70  [illegible]  73  70  73  73  [illegible]  76  [illegible]  79  [illegible]  79  71  60  60  70
  70  75  81  80  77  81  75  71  75  77  83  80  75  77  73  71
  81  82  77  78  81  80  76  72  [illegible]  78  75  [illegible]  77  75  79  73
  78  78  74  81  81  81  76  79  [illegible]  85  87  86  84  84  85  85
  86  90  87  85  84  82  75  77  72  74  77  80  72  74  72  80
  85  85  86  86  85  81  82  71  71  86  70  83  56  61  76  85
  61  62  73  82  73  74  67  61  [illegible]  67  71  61  53  55  67  62
  68  61  81  79  65  55  57  62  72  60  64  58  63  75  79  76
  79  79  60  79  60  80  78  79  76  61  82  65  73  70  75  67
  74  77  74  73  75  69  75  75  73  70  76  72  75  79  73  71
  60  74  84  82  71  77  79  75  79  81  82  77  78  76  78  82
  65  84  84  84  85  85  86  84  84  84  84  84  75  87  85  86
  82  60  72  72  79  79  61  81  70  83  83  89  84  86  84  83
  81  82  86  82  65  83  82  84  57  84  84  83  84  83  83  85
  81  73  67  76  79  80  70  75  61  72  78  81  81  72  78  61
  66  60  60  60  60  61  60  60  62  40  60  60  60  66  70  65
  60  67  60  67  60  60  60  60  60  76  77  76  83  75  73  64
  60  68  81  85  92  83  78  70  59  74  74  72  75  72  77  81
  81  72  79  80  74  77  79  71  75  75  80  78  86  85  82  84
  81  83  82  82  79  81  60  84  80  77  80  81  81  81  81  81
  77  77  60  83  79  77  70  EQ  81  82  84  80  82  81  81  60
  79  73  78  80  63  83  64  76  84  85  83  76  85  34  81  84
  82  82  86  84  83  85  79  77  83  83  84  81  75  75  78  67
  60  63  67  73  70  67  70  80  83  97  75  83  83  73  87  81
  79  75  66  83  85  66  77  76  82  83  82  85  79  93  83  67
  73  63  72  70  77  70  69  74  55  71  67  82  61  79  74  61
  82  83  82  76  70  76  72  62  63  78  66  82  92  84  78  75
  68  75  75  75  61  71  64  60  74  76  61  63  63  64  65  68
%EOF




ENTER LOG DATE (DD/MM/YR) : 18/06/79

ENTER SITE CODE (5 CHARS) : MILCL
ENTER USER CODE (4 CHARS) : 0907
 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED :18 JUNE 1979            DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : MILCL
 SERIAL NUMBER : 1220                        JOB CODE : 176
      BASELINE : 50 DB                      USER CODE : 0907
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   1:27:39

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 44?
PERIOD =  1 MINUTES

TIME           LOSHA                        SDOSE
HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
  1       73.3       73.3            1.2??       1.24
  2       81.1       76.2            3.6??       4.90
  3       76.4       77.2            1.4??       6.34
  4       81.4       78.5            3.795      10.14
  5       77.2       78.2            2.114      12.25
  6       79.4       78.4            2.?61      15.11
  7       81.1       78.9            5.5??      [illegible]
  8       77.9       78.8            2.3??      21.1?
MIN. COMP. =  60 DB           MAX. COMP. =  92 DB
ARITHMETIC MEAN =  7? DB
STD. DEVIATION =  [illegible]
VARIANCE = 64 DB
```

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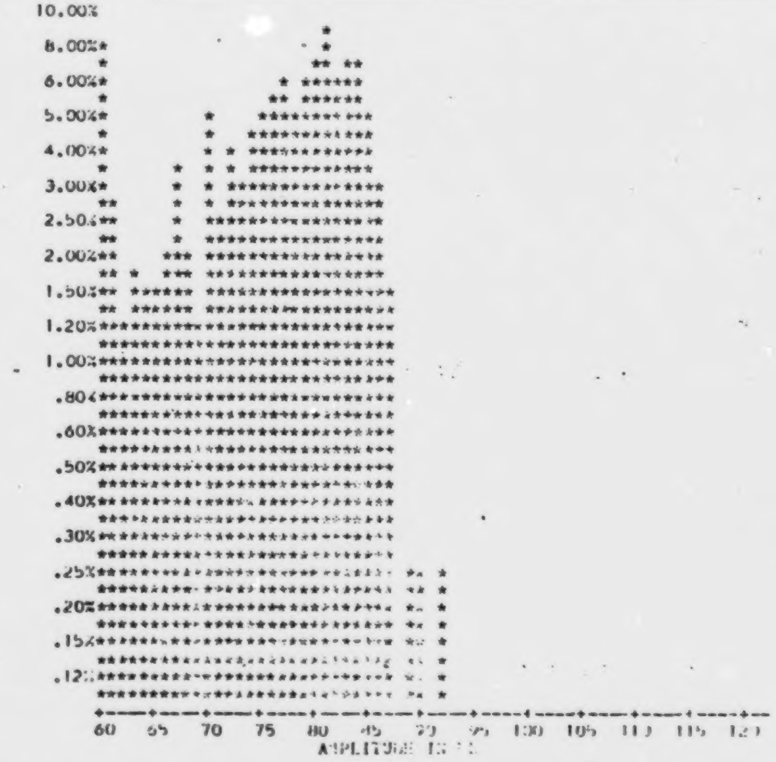
AMPLITUDE DISTRIBUTION

[illegible]		
[illegible]		[illegible]
[illegible]	[illegible]	
61	12.7	60 TO 64
42	8.8	65 TO 69
76	15.8	70 TO 74
114	23.8	75 TO 79
146	30.4	80 TO 84
39	8.1	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

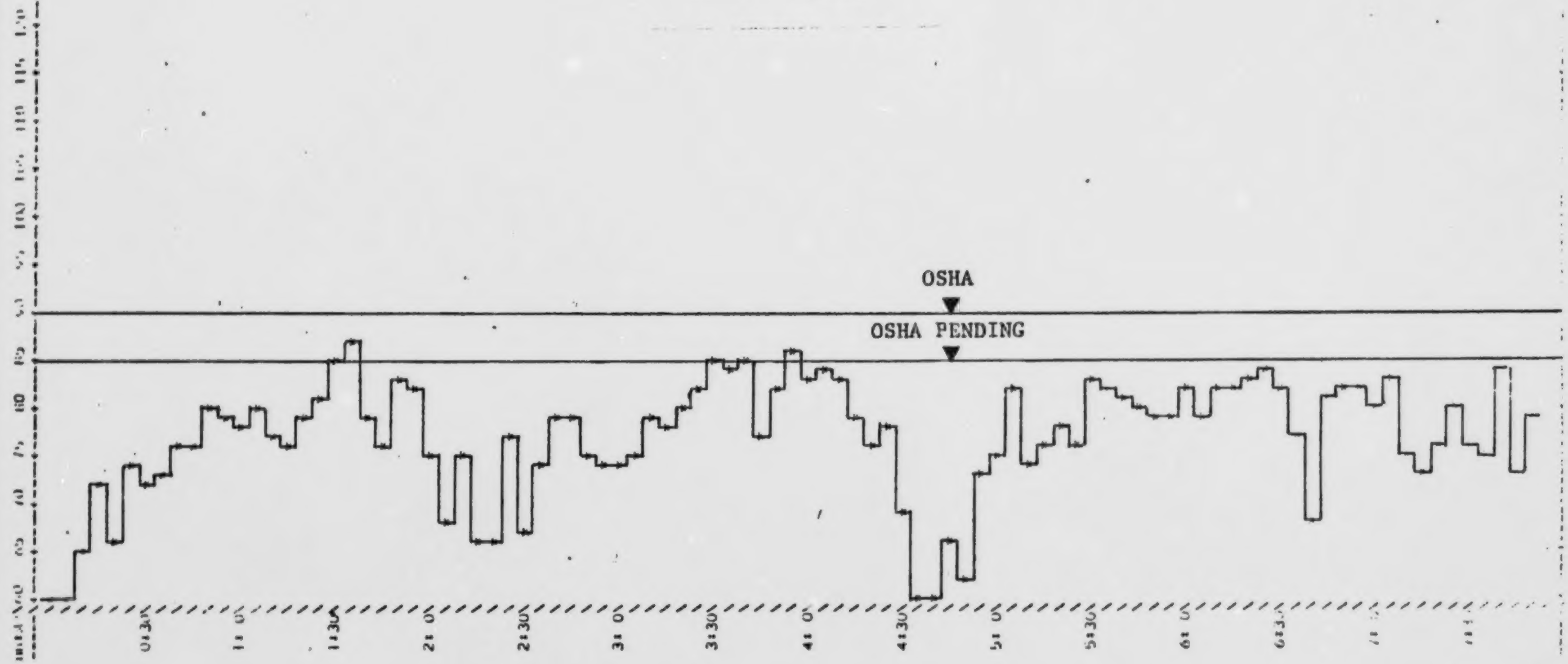
TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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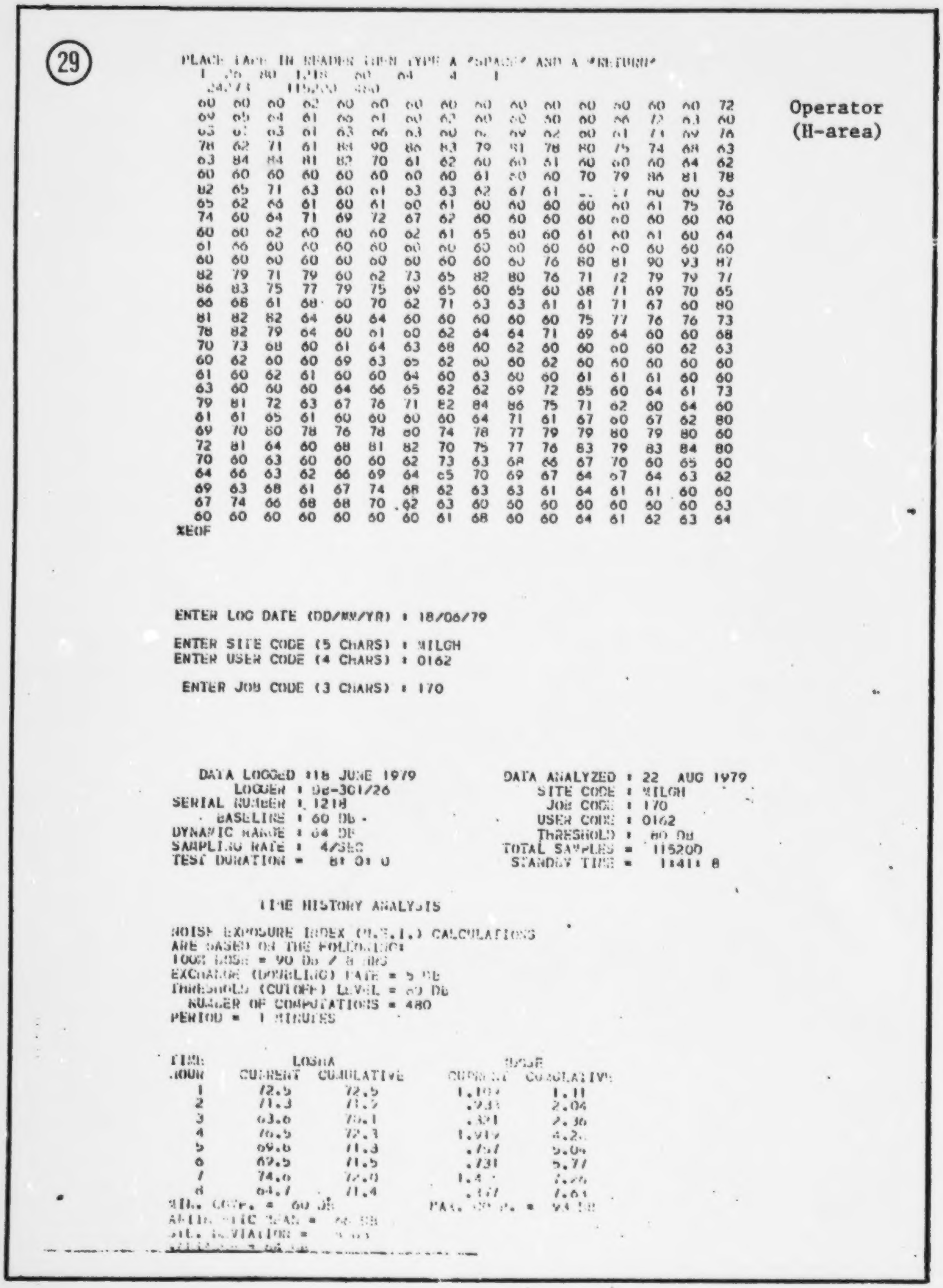

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Operator
(H-area)

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1218   60   64    4    1
  24273     115200  480
  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60  72
  69  65  64  61  66  61  60  62  60  60  60  60  66  72  63  60
  63  62  63  61  63  66  63  60  62  69  62  60  61  71  69  76
  78  62  71  61  88  90  86  83  79  81  78  80  75  74  68  63
  63  84  84  81  82  70  61  62  60  60  61  60  60  60  64  62
  60  60  60  60  60  60  60  60  61  60  60  70  79  86  81  78
  82  65  71  63  60  61  63  63  62  67  61  ..  .7  60  60  63
  65  62  66  61  60  61  60  61  60  60  60  60  60  61  75  76
  74  60  64  71  69  72  67  62  60  60  60  60  60  60  60  60
  60  60  62  60  60  60  62  61  65  60  60  61  60  61  60  64
  61  66  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  76  80  81  90  93  87
  82  79  71  79  60  62  73  65  82  80  76  71  72  79  79  77
  86  83  75  77  79  75  69  65  60  65  60  68  71  69  70  65
  66  68  61  68  60  70  62  71  63  63  61  61  71  67  60  80
  81  82  82  64  60  64  60  60  60  60  60  75  77  76  76  73
  78  82  79  64  60  61  60  62  64  64  71  69  64  60  60  68
  70  73  68  60  61  64  63  68  60  62  60  60  60  60  62  63
  60  62  60  60  69  63  65  62  60  60  62  60  60  60  60  60
  61  60  62  61  60  60  64  60  63  60  60  61  61  61  60  60
  63  60  60  60  64  66  65  62  62  69  72  65  60  64  61  73
  79  81  72  63  67  76  71  82  84  86  75  71  62  60  64  60
  61  61  65  61  60  60  60  60  64  71  61  67  60  67  62  80
  69  70  80  78  76  78  80  74  78  77  79  79  80  79  80  60
  72  81  64  60  68  81  82  70  75  77  76  83  79  83  84  80
  70  60  63  60  60  60  62  73  63  68  66  67  70  60  65  60
  64  66  63  62  66  69  64  65  70  69  67  64  67  64  63  62
  69  63  68  61  67  74  68  62  63  63  61  64  61  61  60  60
  67  74  66  68  68  70  62  63  60  60  60  60  60  60  60  63
  60  60  60  60  60  60  60  61  68  60  60  64  61  62  63  64
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79

ENTER SITE CODE (5 CHARS) : MILGH
ENTER USER CODE (4 CHARS) : 0162

 ENTER JOB CODE (3 CHARS) : 170



   DATA LOGGED :18 JUNE 1979          DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MILGH
SERIAL NUMBER : 1218                       JOB CODE : 170
     BASELINE : 60 DB                     USER CODE : 0162
DYNAMIC RANGE : 64 DB                     THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC              TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0            STANDBY TIME =    1:41: 8

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                     DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
  1       72.5      72.5          1.107      1.11
  2       71.3      71.7           .933      2.04
  3       63.6      70.1           .321      2.36
  4       70.5      72.3          1.917      4.27
  5       69.6      71.3           .757      5.04
  6       69.5      71.5           .731      5.77
  7       74.0      72.0          1.4         7.2
  8       64.7      71.4           .377      7.63
MIN. COMP. =  60 DB            MAX. COMP. =  93 DB
ARITHMETIC MEAN =  66 DB
STD. DEVIATION =
```

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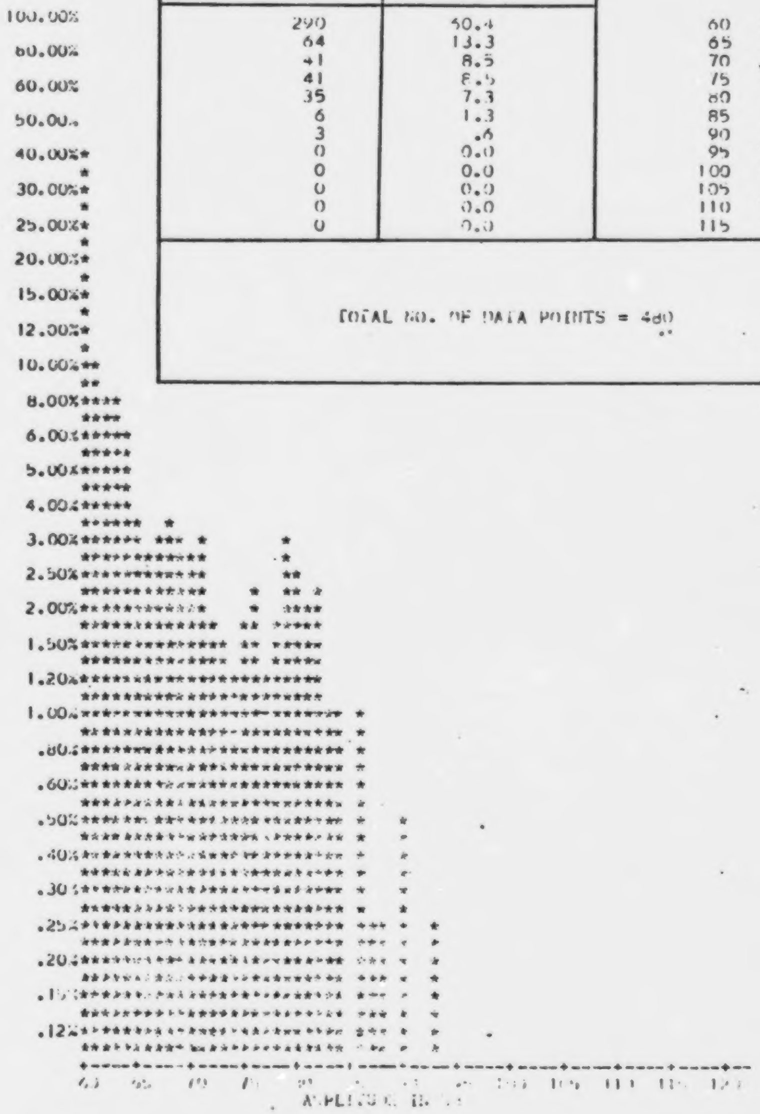
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
290	60.4	60 TO 64
64	13.3	65 TO 69
41	8.5	70 TO 74
41	8.5	75 TO 79
35	7.3	80 TO 84
6	1.3	85 TO 89
3	.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

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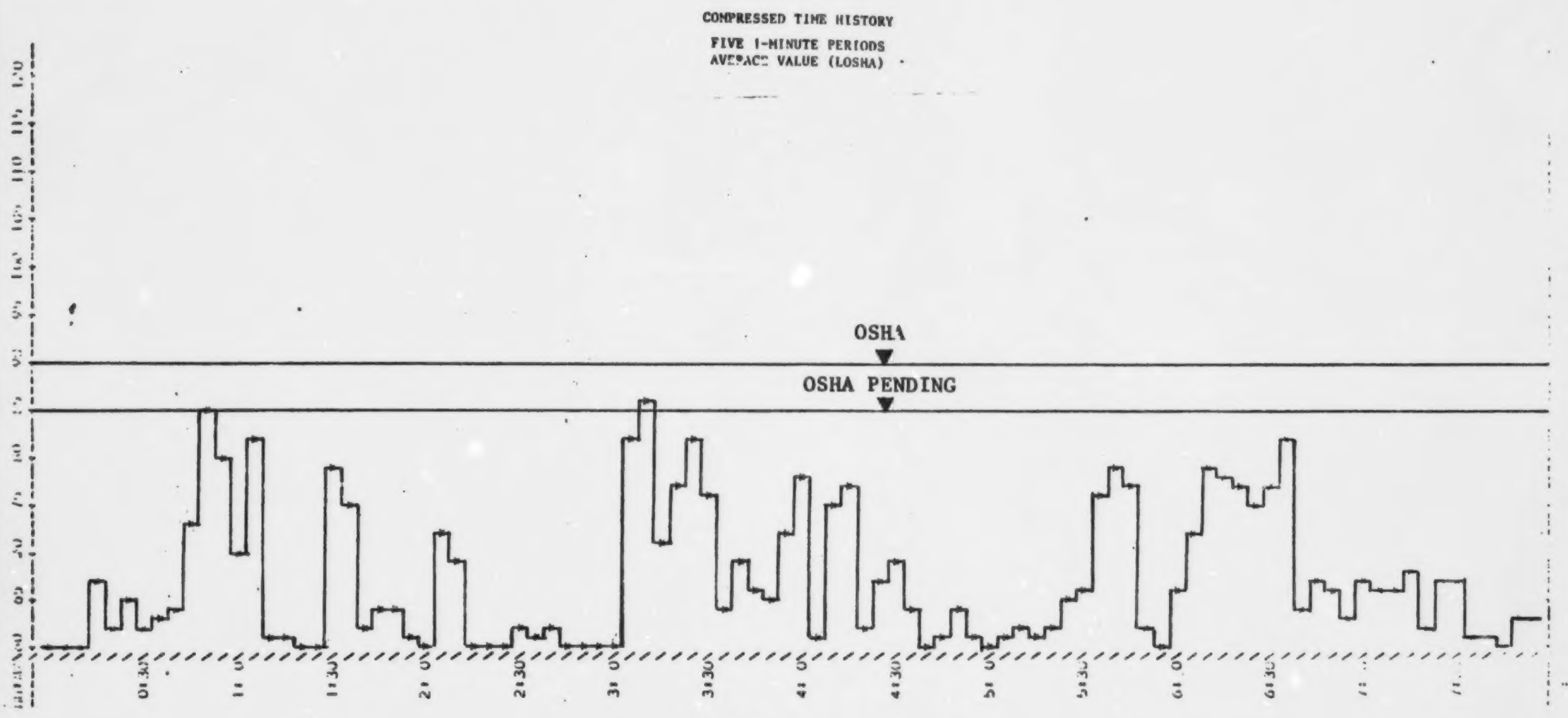


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(30)

Operator
(H-area)

```
[illegible]
  1  [illegible]  60  64  4  1
  [illegible]    115200   480
  73  65  64  66  76  79  83  82  75  81  81  81  82  91  91  82
  86  86  86  85  77  83  85  83  [illegible]  78  72  76  75  74  83  63
  82  92  76  73  74  81  80  75  [illegible]  82  82  73  80  73  74  64
  77  72  63  60  61  61  76  85  [illegible]  84  86  87  86  95  95  91
  88  93  96  90  91  91  92  92  [illegible]  90  96  86  94  93  90  89
  89  88  88  92  93  90  89  90  93  90  91  90  91  89  90  90
  92  92  90  91  93  92  94  92  93  93  92  90  97  96  93  95
  93  94  93  94  94  93  92  93  [illegible]  92  95  94  93  85  90  90
  89  95 100  92  93  93  93  94  93  90  90  90  92  93  93  94
  92  92  93  86  85  86  97  94  92  89  84  63  63  63  60  70
  60  70  67  62  [illegible]  89  90  93  71  91  92  90  87  76  86  85
  86  86  85  90  90  92  90  99  [illegible]  95  95  94  95  92  92  89
  91  92  95  92  92  91  94  91  92  91  88  80  76  61  64  60
  60  60  60  60  60  60  60  50  [illegible]  62  60  60  60  60  60  61
  62  60  63  60  60  60  60  61  63  73  75  86  97  89  88  86
  86  87  91  92  90  87  87  88  89  90  94  93  95  87  90  89
  89  89  89  89  83  90  90  99  92  91  89  90  89  90  89  89
  89  90  90  91  92  91  91  76  85  87  88  88  76  85  88  89
  93  90  94  91  91  90  90  89  88  88  88  89  89  83  90  92
  89  90  86  89  90  88  85  91  90  90  87  85  86  86  86  80
  86  86  80  86  91  93  89  92  95  91  89  80  89  91  91  93
  92  90  89  90  91  91 ,92  93  93  74  79  62  60  75  80  61
  78  77  79  78  77  92  94  93  91  91  91  90  70  89  90  90
  93  95  98  99  95  96  94  96  97  97  96  99  96  83  80  77
  81  84  96  95  97  97  98  96  92  97  94  94  93  91  90  89
  90  92  91  90  90  90  90  90  89  89  89  89  89  94  92  90
  90  91  91  90  91  95  92  91  92  92  92  92  92  90  92  90
  92  82  75  75  80  76  63  80  84  83  81  81  81  81  91  81
  81  81  81  82  82  77  65  62  63  62  74  76  77  69  70  64
  70  77  73  74  64  60  60  60  63  63  62  64  63  62  60  61
%EOF



ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLP
ENTER USER CODE (4 CHARS) : 0589

 ENTER JOB CODE (3 CHARS) : 174



   DATA LOGGED :26 JUNE 1979            DATA ANALYZED : 27  AUG 1979
        LOGGER : DL-301/26                    SITE CODE : MILLP
SERIAL NUMBER : 1212                           JOB CODE : 174
     BASELINE : 60 DB                         USER CODE : 0589
DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                  STANDBY TIME =  18:45:44

          TIME HISTORY ANALYSIS

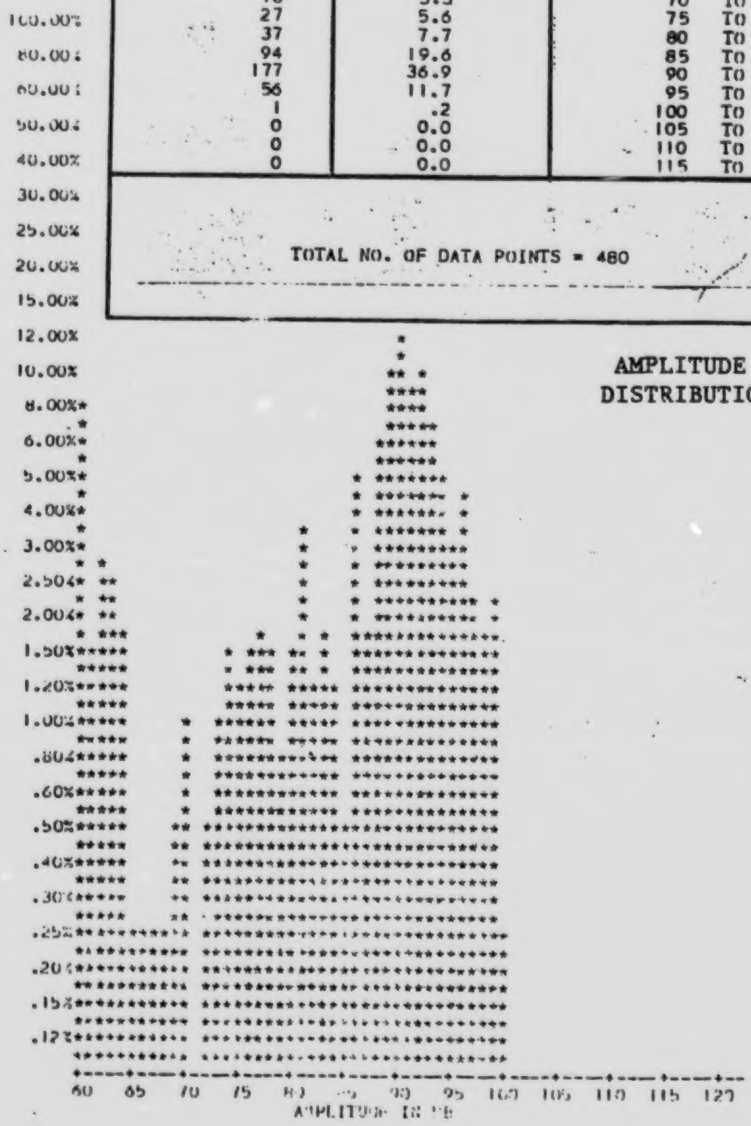
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
[illegible] DOSE = 90 DB / 8 [illegible]
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                    DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1      84.2       84.2         5.573      5.57
   2      93.6       92.3        20.4[illegible]     26.05
   3      91.0       90.5        14.2[illegible]     40.3[illegible]
   4      87.0       89.8         [illegible]      49.58
   5      90.4       89.9        13.1[illegible]     61.76
   6      [illegible]       89.7        1[illegible]     72.41
   7      93.1       90.3        1[illegible].21[illegible]     91.63
   8      83.3       89.7         4.9[illegible]     96.48
[illegible] = [illegible]            [illegible] = 10[illegible]
[illegible]
STD. DEVIATION =  11 [illegible]
VARIANCE =121 [illegible]
```

(30)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER C	
66	13.8	60 TO 64
6	1.3	65 TO 69
16	3.3	70 TO 74
27	5.6	75 TO 79
37	7.7	80 TO 84
94	19.6	85 TO 89
177	36.9	90 TO 94
56	11.7	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

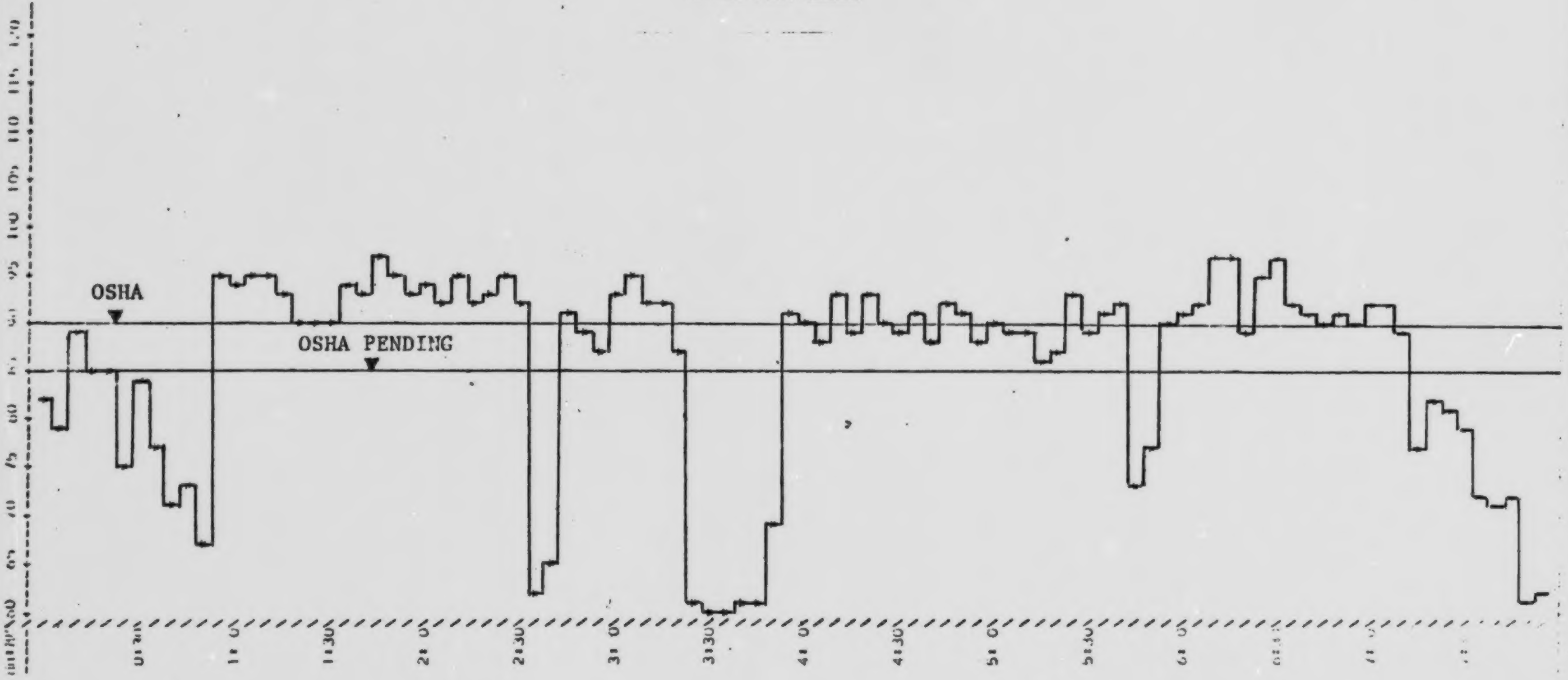


AMPLITUDE DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Hyster Driver'
(M-area)

```
[illegible]
  1   25  06  1224   60   64     4     1
   [illegible]     115200  240
  77  77  10  75  75  60  74  76  84  [illegible]  65  60  57  76  71  75
  60  75  83  82  73  81  75  73  81  72  72  52  71  73  78  77
  63  79  84  76  74  73  92  94  92  79  80  75  76  81  79  80
  82  81  80  81  75  78  76  85  84  82  83  82  77  86  80  85
  83  85  85  80  73  76  67  86  89  87  87  85  84  77  83  77
  75  73  72  82  75  75  76  73  81  75  74  64  72  74  72  81
  81  85  83  80  83  80  69  55  60  60  60  67  70  75  73  67
  79  76  73  66  63  60  73  85  74  58  60  60  65  55  71  79
  77  78  83  80  82  8.  83  84  83  64  75  73  60  60  60  61
  60  60  60  60  60  60  60  60  60  50  60  60  50  50  60  60
  60  60  60  61  60  60  60  85  53  83  75  76  83  84  84  87
  88  85  86  90  84  89  86  76  82  82  83  82  81  79  77  80
  82  84  84  84  85  85  84  86  85  85  85  90  91  85  84  84
  85  85  86  86  86  84  85  85  86  85  83  73  65  64  81  68
  70  69  78  79  86  80  78  85  85  85  90  87  82  78  70  86
  79  78  60  60  60  62  75  72  50  50  60  60  50  60  60  60
  60  60  60  60  60  60  60  60  60  50  50  60  50  60  60  60
  61  60  60  60  60  60  60  60  60  50  60  60  60  50  60  60
  60  60  60  60  60  60  60  60  50  50  60  50  50  50  50  60
  64  65  64  69  75  75  71  6F  80  71  70  79  52  77  68  71
  69  68  65  62  69  69  69  75  93  82  60  61  63  79  80  77
  62  75  75  72  76  74  67  76  78  58  73  74  75  75  68  71
  78  82  84  82  81  79  70  67  62  65  64  60  51  52  77  76
  67  60  62  60  65  83  84  79  78  49  93  60  50  50  60  60
  60  60  63  73  81  71  79  97  85  82  81  85  34  45  81  79
  79  78  94  80  69  60  60  60  50  52  60  60  51  50  61  61
  63  60  60  62  60  61  60  61  60  52  64  64  52  54  74  75
  74  63  71  84  83  83  79  81  82  83  83  83  51  82  81  78
  81  82  81  79  75  82  82  74  82  83  70  67  72  56  66  78
  81  82  77  81  76  71  60  60  60  50  64  60  10  80  78  61
%EOF


ENTER LOG DATE (DD/MM/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 3352
 ENTER JOB CODE (3 CHARS) : 174


   DATA LOGGED :25 JUNE 1979          DATA ANALYZED : 27  AUG 1979
        LOGGER : 05-301/25                  SITE CODE : MILL+
 SERIAL NUMBER : 1224                        JOB CODE : 174
      BASELINE : 60 DB                      USER CODE : 3352
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   1:36: 9

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUT-OFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                        DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1       81.1      81.1              3.649      3.65
  2       79.7      80.4              2.980      6.63
  3       77.6      79.6              2.246      8.88
  4       83.7      80.9              5.241     14.12
  5       63.4      79.4               .312     14.43
  6       76.2      79.0              1.432     15.27
  7       77.2      79.0              2.290     17.56
  8       77.1      78.8              [illegible]      21.15
MIN. CONC. =  60 DB                MAX. CONC. =  97 DB
ARITHMETIC MEAN =  72 DB
STD. DEVIATION =  11 DB
VARIANCE [illegible]
```

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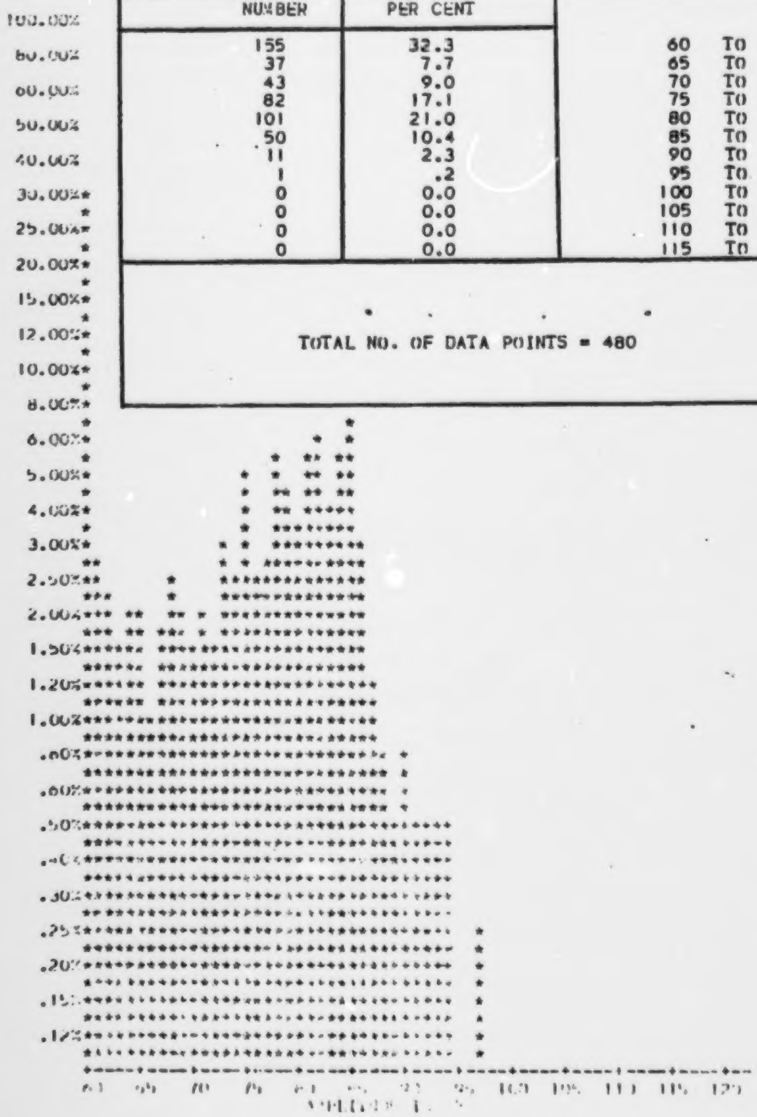
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
155	32.3	60 TO 64
37	7.7	65 TO 69
43	9.0	70 TO 74
82	17.1	75 TO 79
101	21.0	80 TO 84
50	10.4	85 TO 89
11	2.3	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

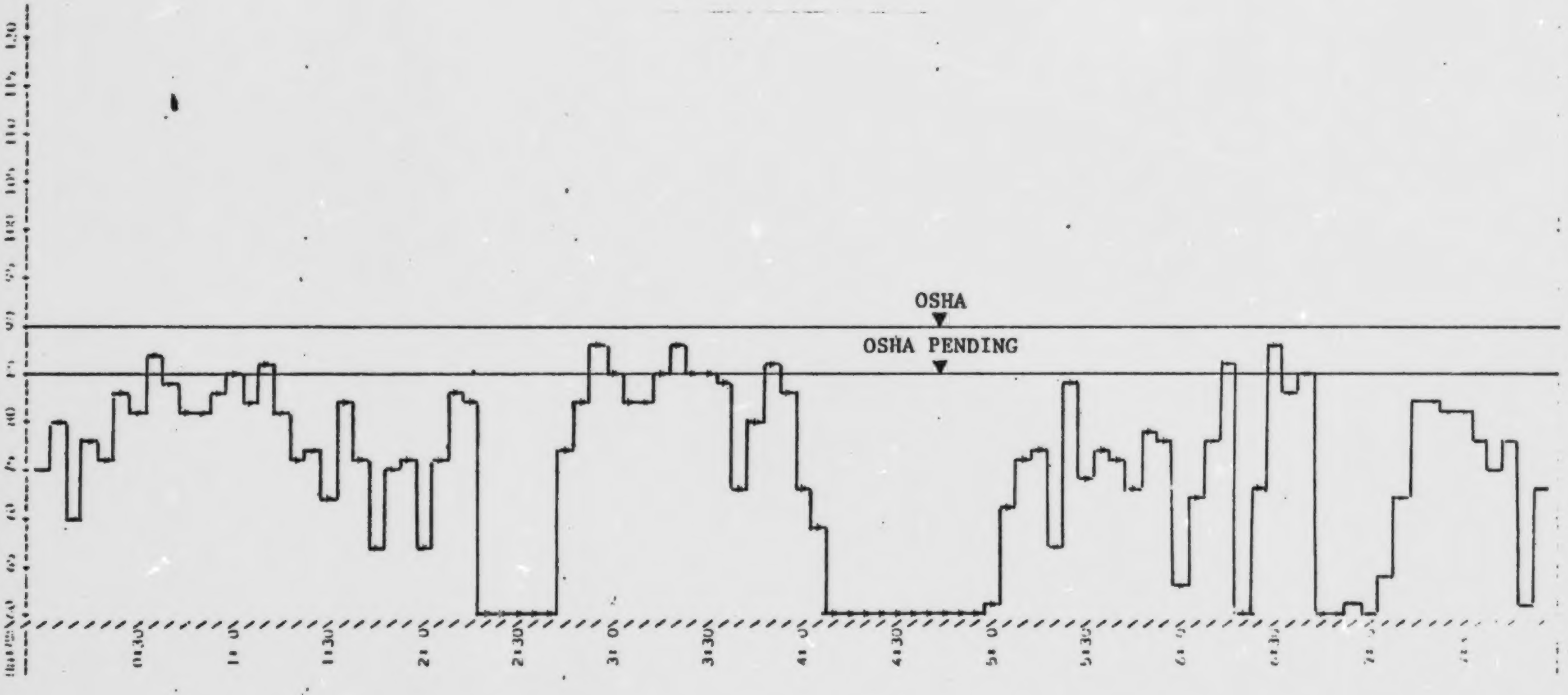


Number of computations = 480

(31)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Dryman
(H-area)

```
PLACE TAPE ON READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  86  1225   64   64     4     1
   7293     115200   4 0
   60  60  60  60  60  63  61  60  61  60  60  60  60  60  60  72
   69  67  67  63  67  63  63  60  63  60  60  60  60  60  70  62
   62  60  61  63  65  63  64  60  61  64  61  63  60  60  64  62
   60  60  61  60  64  70  61  60  60  75  62  64  60  71  74  67
   69  62  63  66  72  62  63  69  81  60  70  60  63  63  77  76
   60  71  63  64  60  60  60  60  62  64  61  62  62  60  60  60
   60  66  60  63  60  60  60  60  61  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  62  60  60  60  60  60  61  71  60
   60  60  60  62  63  60  60  60  60  64  67  60  67  63  65  60
   64  74  70  63  60  60  60  60  60  60  60  60  60  60  61  67
   63  81  76  81  82  61  76  62  64  63  60  60  73  73  68  71
   73  74  76  74  65  70  64  80  80  82  81  80  62  81  64  81
   81  82  82  83  82  81  81  74  74  78  61  67  60  64  63  69
   65  60  60  60  60  60  61  60  60  62  60  60  60  60  60  60
   60  60  60  60  62  60  60  60  60  63  60  65  60  60  60  60
   60  61  64  63  60  60  60  60  60  60  60  60  60  60  61  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  66  60  60  60  60  55  63  62  60
   60  60  60  60  60  60  60  60  60  60  61  61  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  61  60  60  61  60  60  60  77
   60  75  80  60  60  64  64  60  60  60  67  61  78  73  78  74
   70  69  63  65  61  73  72  73  70  75  77  65  62  68  72  75
   70  80  78  81  77  70  61  60  60  60  60  60  60  60  60  60
   60  64  60  73  62  71  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  76  84  71  72  69  64  60  60  60  61  60  60  60  63
   60  60  60  60  60  61  60  60  65  66  60  70  67  60  60  63
%EOF




ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILL-
ENTER USER CODE (4 CHARS) : 4648
 ENTER JOB CODE (3 CHARS) : 295




    DATA LOGGED :18 JUNE 1979           DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                 SITE CODE : MILL-
  SERIAL NUMBER : 1225                       JOB CODE : 295
       BASELINE : 60 DB                     USER CODE : 4648
  DYNAMIC RANGE : 54 DB                     THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  115200
  TEST DURATION =    8: 0: 0             STANDBY TIME =   0:30:23

           TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES

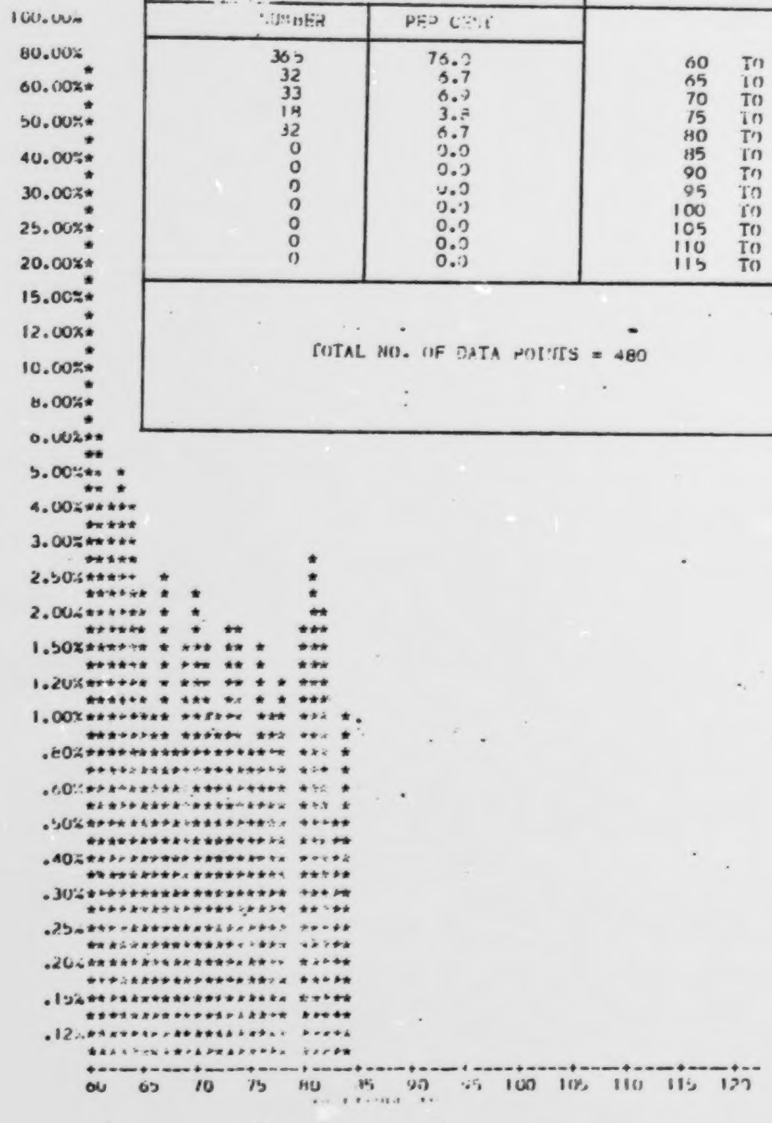
  TIME          LOSHA                    %DOSE
  HOUR    CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
     1       63.5       63.5          .317        .32
     2       69.9       67.4          .770       1.09
     3       69.4       68.1          .714       1.80
     4       74.3       70.2         1.415       3.22
     5       60.2       69.0          .209       3.42
     6       60.4       68.1          .205       3.62
     7       70.3       68.5          .811       4.43
     8       64.9       68.1          .390       4.82
  MIN. CONC. =  60 DB                 MAX. CONC. =  84 DB
  ARITHMETIC MEAN =   63 DB
  STD. DEVIATION =    6 DB
  VARIANCE =  36 DB
```

(32)

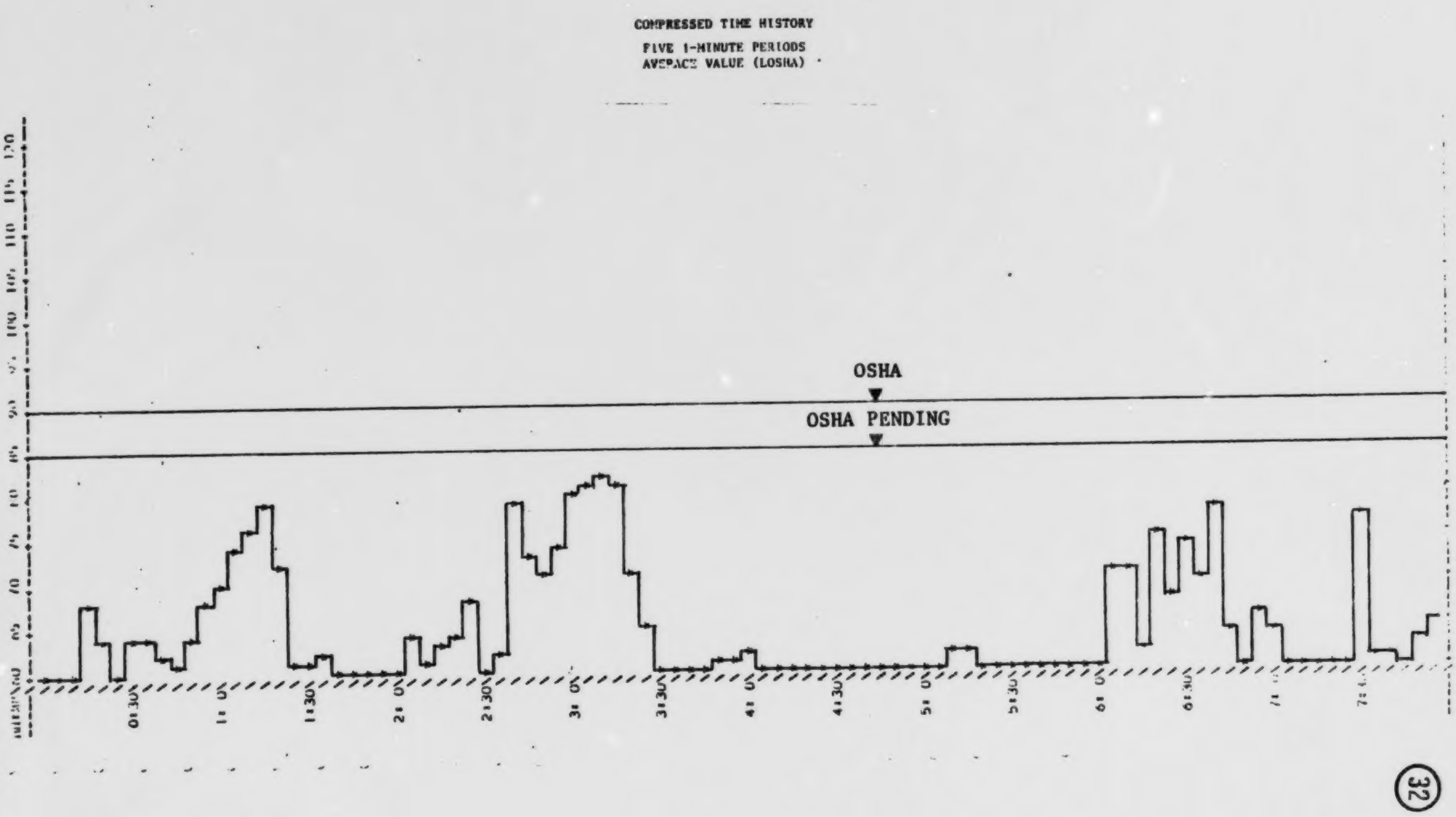
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
365	76.0	60 TO 64
32	6.7	65 TO 69
33	6.9	70 TO 74
18	3.8	75 TO 79
32	6.7	80 TO 84
0	0.0	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

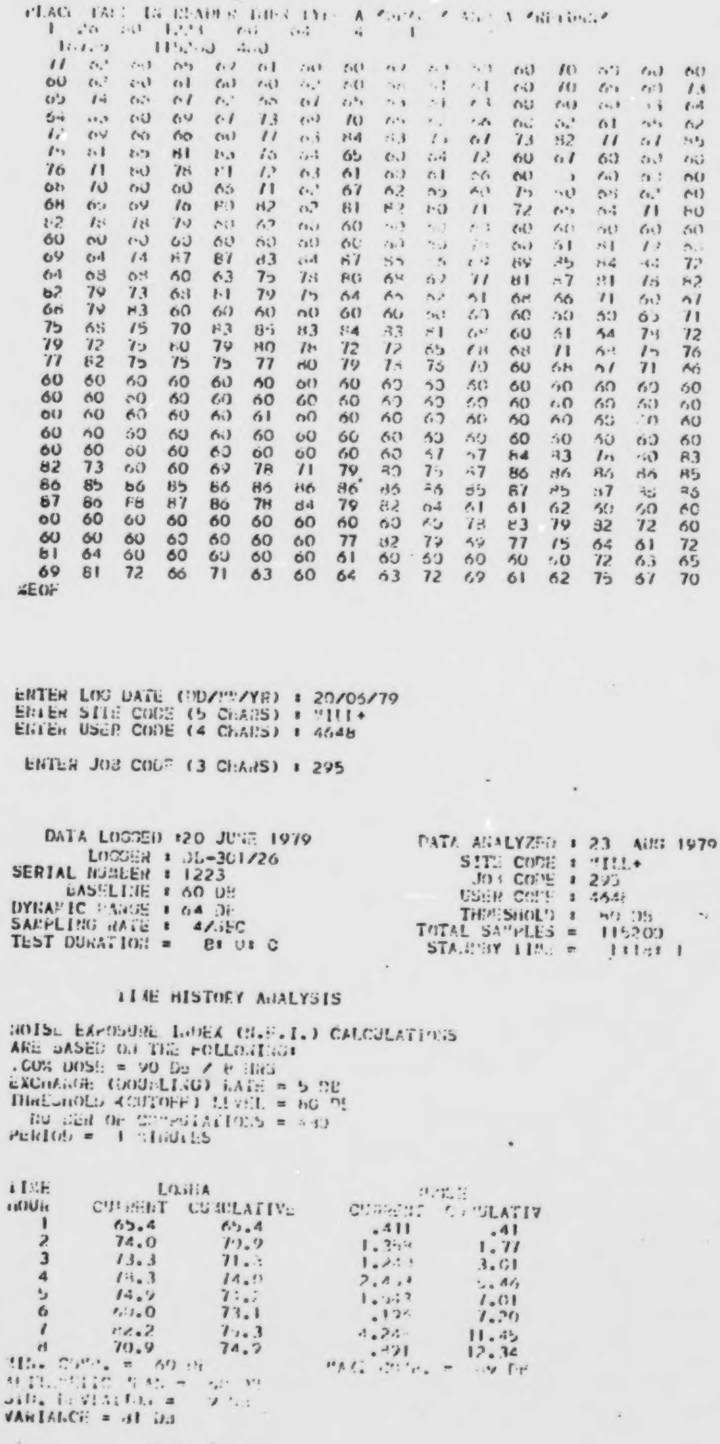


Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
UNDER60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30
32

㉝

Dryman
(H-area)



```
PLACE TAPE IN READER THEN TYPE A [illegible] [illegible] A [illegible]
  1  20  60  1223   64   64    4    1
 [illegible]    115200  480
 77  62  60  65  67  61  60  60  62  61  60  60  70  65  60  60
 60  62  60  61  60  60  62  60  56  61  61  60  70  66  60  73
 65  74  65  67  62  65  67  65  63  61  73  60  60  60  63  64
 64  63  60  69  67  73  60  70  65  62  66  66  62  61  65  62
 72  69  66  66  60  77  63  84  83  75  67  73  82  77  67  85
 75  81  85  81  85  75  64  65  60  64  72  60  67  60  60  60
 76  71  80  78  81  72  63  61  60  61  66  60  [illegible]  60  61  60
 66  70  60  60  65  71  62  67  62  65  60  75  60  65  62  60
 68  65  69  76  80  82  62  81  82  80  71  72  65  64  71  80
 82  78  78  79  80  67  60  60  60  60  63  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  70  60  61  81  73  60
 69  64  74  87  87  83  64  87  85  75  72  89  85  84  63  72
 64  68  68  60  63  75  78  80  68  62  77  81  87  81  78  82
 62  79  73  63  81  79  75  64  65  62  61  68  66  71  60  67
 66  79  83  60  60  60  60  60  66  60  60  60  60  60  65  71
 75  68  75  70  83  85  83  84  83  81  69  60  61  64  78  72
 79  72  75  80  79  80  78  72  72  65  78  68  71  68  75  76
 77  82  75  75  75  77  80  79  75  75  70  60  68  67  71  66
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  61  60  60  60  60  60  60  60  60  70  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  57  67  84  83  76  60  83
 82  73  60  60  69  78  71  79  80  75  67  86  86  86  86  85
 86  85  86  85  86  86  86  86  86  86  85  87  85  87  88  86
 87  86  88  87  86  78  84  79  82  64  61  61  62  60  60  60
 60  60  60  60  60  60  60  60  60  65  78  83  79  82  72  60
 60  60  60  60  60  60  60  77  82  79  69  77  75  64  61  72
 61  64  60  60  60  60  60  61  60  60  60  60  60  72  63  65
 69  81  72  66  71  63  60  64  63  72  69  61  62  75  67  70
*EOF



ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 4648

 ENTER JOB CODE (3 CHARS) : 295


   DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
       LOGGER : DL-301/26                        SITE CODE : MILL+
SERIAL NUMBER : 1223                              JOB CODE : 295
     BASELINE : 60 DB                            USER CODE : 4648
DYNAMIC RANGE : 64 DB                            THRESHOLD :  60 DB
SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                     STANDBY TIME =  [illegible]

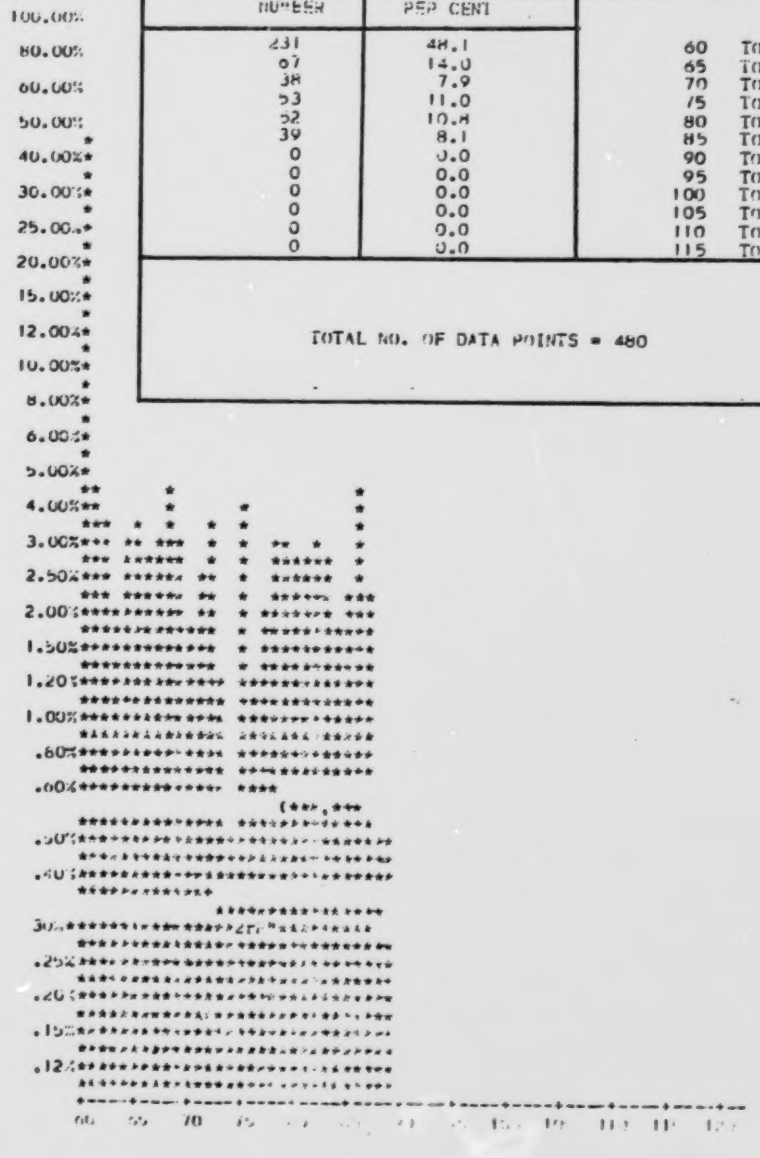
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
.00% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIV
  1       65.4       65.4           .411       .41
  2       74.0       70.9          1.358      1.77
  3       73.3       71.8          1.243      3.01
  4       78.3       74.0          2.4[illegible]      5.46
  5       74.9       74.2          1.543      7.01
  6       60.0       73.1           .194      7.20
  7       82.2       75.3          4.248     11.45
  8       70.9       74.9           .891     12.34
MIN. CONC. =  60 DB              MAX. CONC. =  89 DB
ARITHMETIC MEAN = [illegible]
STD. DEVIATION =   9 DB
VARIANCE = 81 DB
```

33

AMPLITUDE DISTRIBUTION

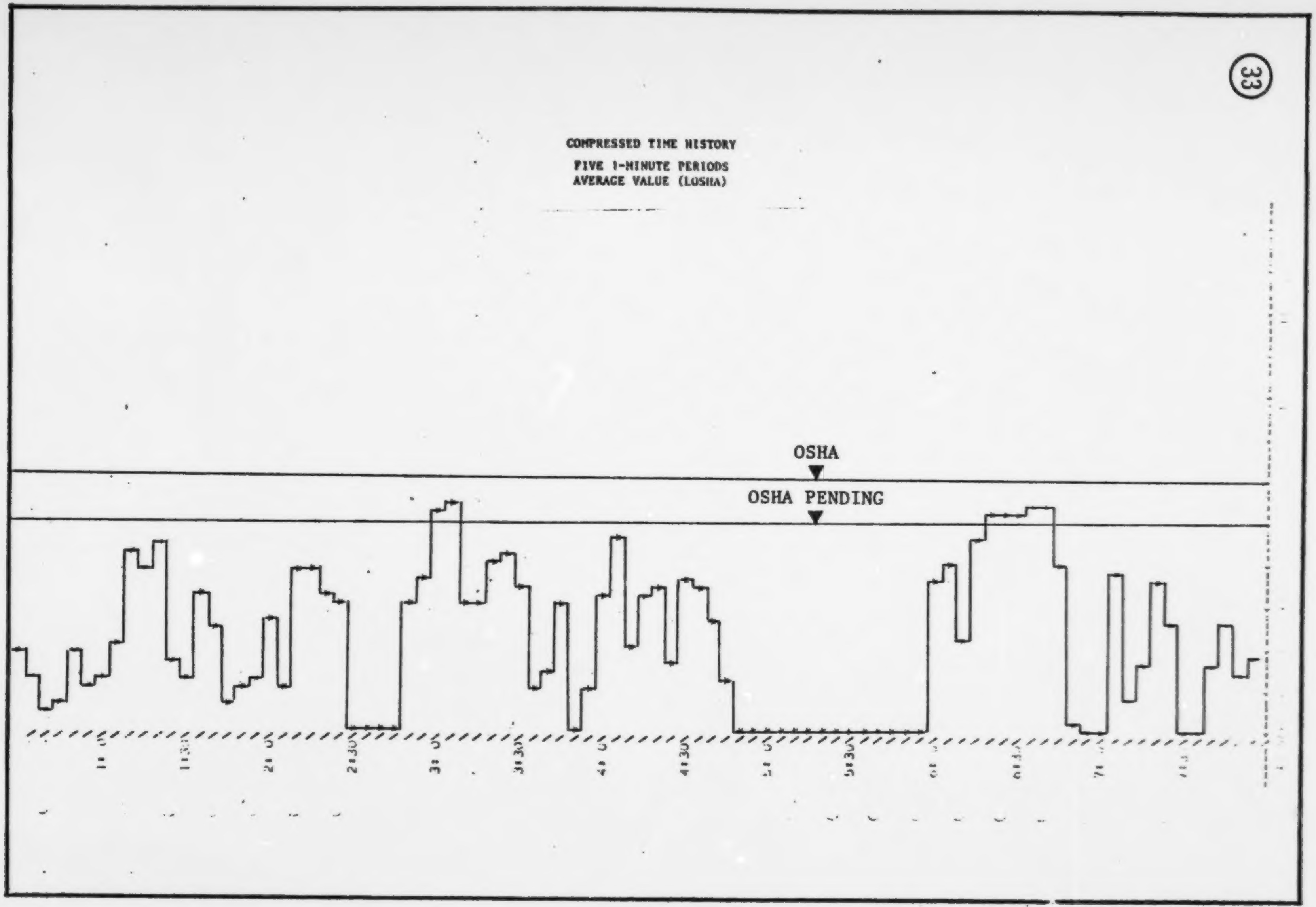


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
231	48.1	60 TO 64
67	14.0	65 TO 69
38	7.9	70 TO 74
53	11.0	75 TO 79
52	10.8	80 TO 84
39	8.1	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

㉝


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0
7:30

㉞

Packer
(H-area)

```
 1  26  80  1226   60   64    4    1
  29091      115200   480
 60  61  60  60  60  60  60  60  60  60  60  74  63  60  76  76
 72  80  76  80  80  84  93  84  81  81  80  85  80  79  79  80
 80  80  80  80  82  85  79  76  77  80  82  87  85  85  86  88
 86  85  80  84  85  89  87  85  88  82 102  94  85  82  86  87
 88  88  87  88  84  84  89  87  88  88  89  89  89  89  97  98
 90  98  90  91  95  90  90  92  91  90  90  90  90  91  91  91
 91  90  90  89  89  89  89  89  89  89  89  87  92  90  89  90
 92  95  88  90  87  86  81  80  80  80  80  80  81  80  81  80
 80  94  82  81  81  81  82  82  82  82  82  82  82  82  82  82
 81  82  82  87  91  82  81  81  81  81  81  81  80  81  81  81
 81  80  81  81  81  81  82  82  82  83  82  85  91  94  92  97
 88  87  87  87  95  86  86  82  81  81  82  95  82  87  86  86
 86  86  83  80  80  82  81  82  82  83  81  80  82  80  79  73
 83  74  72  68  75  76  71  70  61  73  78  80  81  81  90  82
 80  80  80  80  81  81  81  81  81  81  81  81  82  84  81  81
 80  81  81  80  81  81  81  81  81  81  81  91  88  90  90  89
 85  91  74  72  73  68  61  60  60  59  74  74  60  59  84  67
 60  64  60  62  60  61  60  60  60  60  60  60  60  72  88  60
 68  60  60  73  78  77  77  76  77  76  78  78  77  78  76  77
 78  77  76  78  78  79  79  79  79  79  79  79  79  79  79  79
 88  89  89  88  89  88  89  90  89  89  88  86  88  89  88  88
 89  89  89  97  80  72  68  65  63  63  60  60  61  60  72  78
 69  60  60  65  71  75  71  72  72  73  73  76  76  76  76  77
 75  79  73  88  69  62  60  60  60  60  64  61  71  64  65  68
 69  68  70  73  73  73  79  72  74  62  60  60  61  60  60  60
 62  61  61  61  82  95  84  91  72  71  64  67  61  66  64  60
 60  60  60  73  75  60  71  63  60  60  60  60  60  67  61  60
 65  65  65  77  69  77  72  74  71  66  69  66  67  62  73  80
 68  71  64  67  71  66  60  60  60  60  60  60  60  60  63  60
 60  60  60  60  60  60  60  69  68  60  64  61  63  61  63  60
%EOF

ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLP
ENTER USER CODE (4 CHARS) : 0433
 ENTER JOB CODE (3 CHARS) : 172




   DATA LOGGED :18 JUNE 1979             DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : MILLP
 SERIAL NUMBER : 1226                         JOB CODE : 172
      BASELINE : 60 DB                       USER CODE : 0433
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   2: 1:12

          TIME HISTORY ANALYSIS

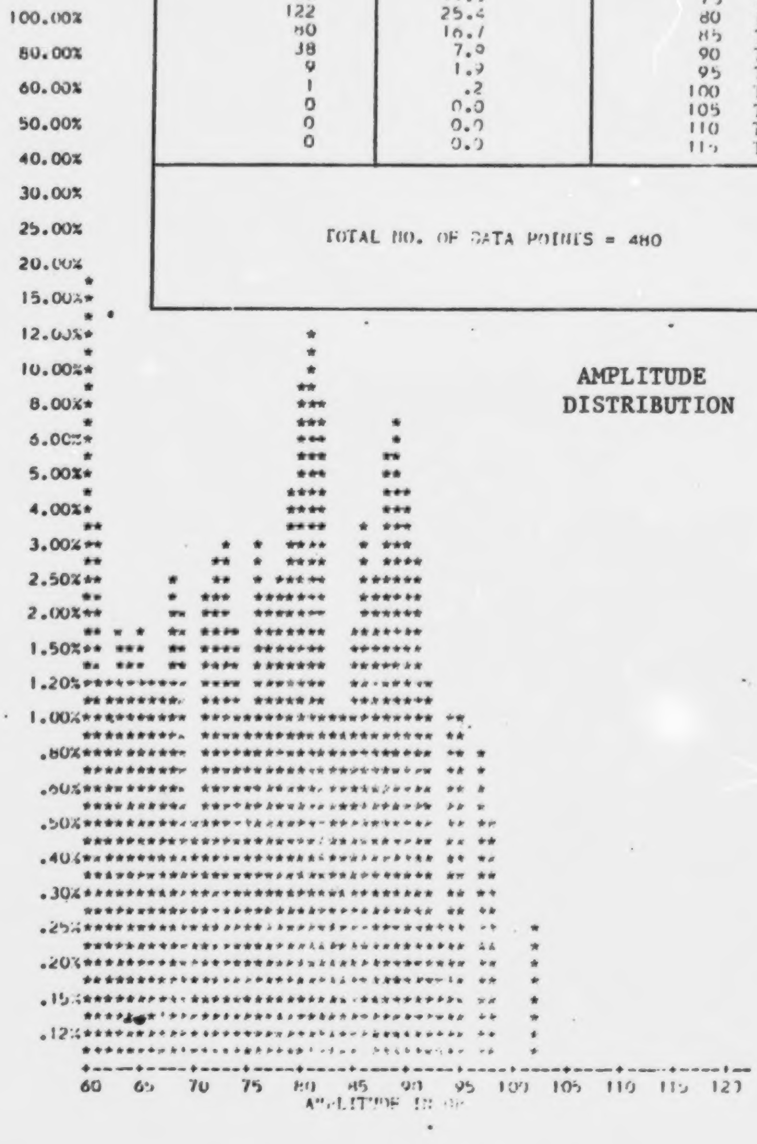
 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES


 TIME          LOSHA                      %DOSE
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1       83.8       83.8           5.299       5.30
    2       90.1       87.6          12.673      17.97
    3       84.5       86.7           5.822      23.79
    4       82.7       85.9           4.531      28.32
    5       79.1       85.0           2.771      31.10
    6       83.3       84.7           4.918      36.02
    7       74.0       83.9           1.352      37.37
    8       69.1       83.0            .690      38.06
 MIN. COMP. =  60 DB                MAX. COMP. = 102 DB
 ARITHMETIC MEAN =  76 DB
 STD. DEVIATION =  11 DB
 VARIANCE =121 DB
```

(34)

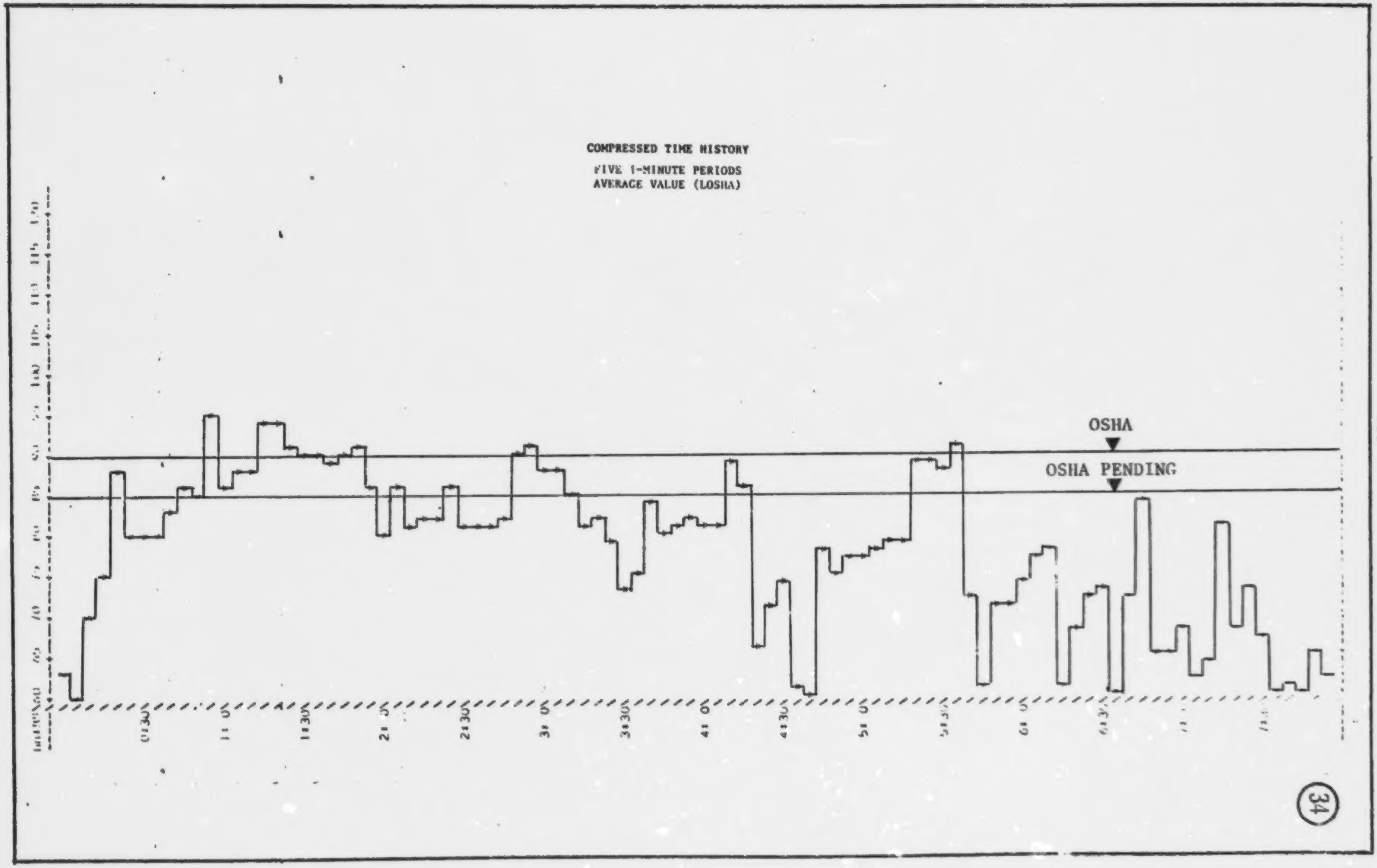
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
101	21.0	60 TO 64
35	7.3	65 TO 69
41	8.5	70 TO 74
53	11.0	75 TO 79
122	25.4	80 TO 84
80	16.7	85 TO 89
38	7.9	90 TO 94
9	1.9	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE
DISTRIBUTION

Number of computations = 480



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

③⑤

Operator
(O-area)

```
PLACE TAPE IN READER [illegible]
 1  26  80  1213   60   64     4     1
 2970/04     115200  480
 79  84  83  84  84  83  83  83  83  84  87  82  85  82  84  84
 82  76  83  83  84  84  83  84  84  83  84  92  93  93  93  92
 92  93  92  92  85  77  78  80  81  84  83  84  84  86  85  84
 77  84  85  82  87  64  66  60  60  60  61  60  60  61  62  60
 61  61  60  65  82  84  84  87  85  88  76  70  66  71  74  73
 75  79  82  77  71  71  62  65  77  72  65  84  84  72  74  83
 83  83  81  60  60  60  60  60  60  65  60  60  60  66  82  77
 67  63  63  67  65  78  84  85  83  83  83  83  82  85  84  60
 66  60  63  61  64  65  65  70  74  74  83  84  82  83  83  83
 65  60  60  60  60  71  83  83  83  73  83  83  83  83  72  69
 60  62  62  62  61  71  63  73  64  65  62  83  82  79  61  63
 67  72  84  83  83  85  84  88  73  79  76  72  70  63  73  70
 70  60  74  70  65  70  61  71  89  91  92  93  81  85  82  84
 84  83  84  83  83  84  84  82  84  84  84  84  83  82  82  72
 61  60  60  62  62  83  82  73  67  60  61  60  61  62  63  66
 60  64  62  61  60  60  63  78  72  76  61  83  76  78  64  88
 80  85  83  83  83  83  62  82  75  83  67  73  68  71  69  69
 60  61  61  60  71  82  72  64  60  61  61  60  60  60  61  60
 70  61  60  60  60  61  60  60  58  60  72  65  69  78  84  89
 91  91  90  91  90  89  86  86  89  88  86  84  84  84  83  85
 84  85  84  75  77  71  74  70  80  90  90  90  88  84  71  79
 81  79  79  79  82  81  60  60  62  63  65  63  64  83  84  82
 84  85  84  84  85  84  85  82  84  83  84  69  71  90  87  87
 77  64  87  85  76  61  73  84  63  60  60  60  75  86  82  82
 82  82  88  89  90  90  90  85  73  62  64  77  84  93  93  85
 84  63  81  82  82  83  85  82  83  83  83  83  84  78  83  84
 80  83  80  66  60  61  63  63  60  61  60  64  66  62  60  60
 73  83  81  85  84  84  84  84  84  84  85  85 107  98  89  84
 92  99  85  85  85  86  85  85  90  60  60  68  67  61  63  61
 64  72  83  78  60  62  60  60  72. 71  73  66  64  62  63  73
$EOF



ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILLL
ENTER USER CODE (4 CHARS) : 7335
 ENTER JOB CODE (3 CHARS) : 172



    DATA LOGGED :26 JUNE 1979              DATA ANALYZED : 28  AUG 1979
         LOGGER : DL-301/26                    SITE CODE : MILLL
  SERIAL NUMBER : 1213                          JOB CODE : 172
       BASELINE : 60 DB                        USER CODE : 7335
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                 STANDBY TIME =  20:37:51

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPILATIONS = 480
PERIOD =  1 MINUTES

TIME        LOGAVG                    DOSE
HOUR   CURRENT  CUMULATIVE     CURRENT  CUMULATIVE
  1      85.6      85.6         6.802      6.80
  2      77.6      82.7         2.791      9.59
  3      7 .6      81.2         1.[illegible]     11.[illegible]
  4      81.3      81.2         3.725     14.77
  5      74.7      80.4         1.500     16.27
  6      84.2      81.1         5.611     21.88
  7      [illegible]      81.5         [illegible]     24.17
  8      84.9      82.1         [illegible]     [illegible]
MIN. CONC. = 60 DB                MAX. CONC. = 1 7 [illegible]
[illegible]
[illegible] = 11 [illegible]
[illegible]
```

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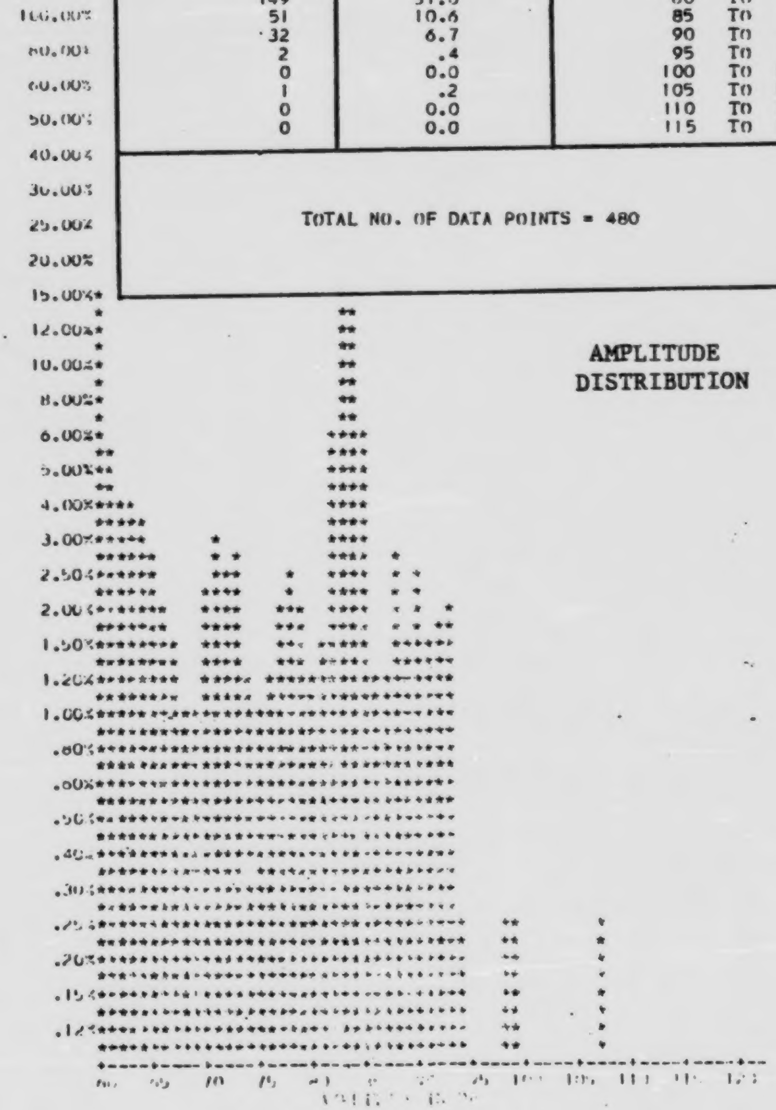
FREQUENCY DISTRIBUTION

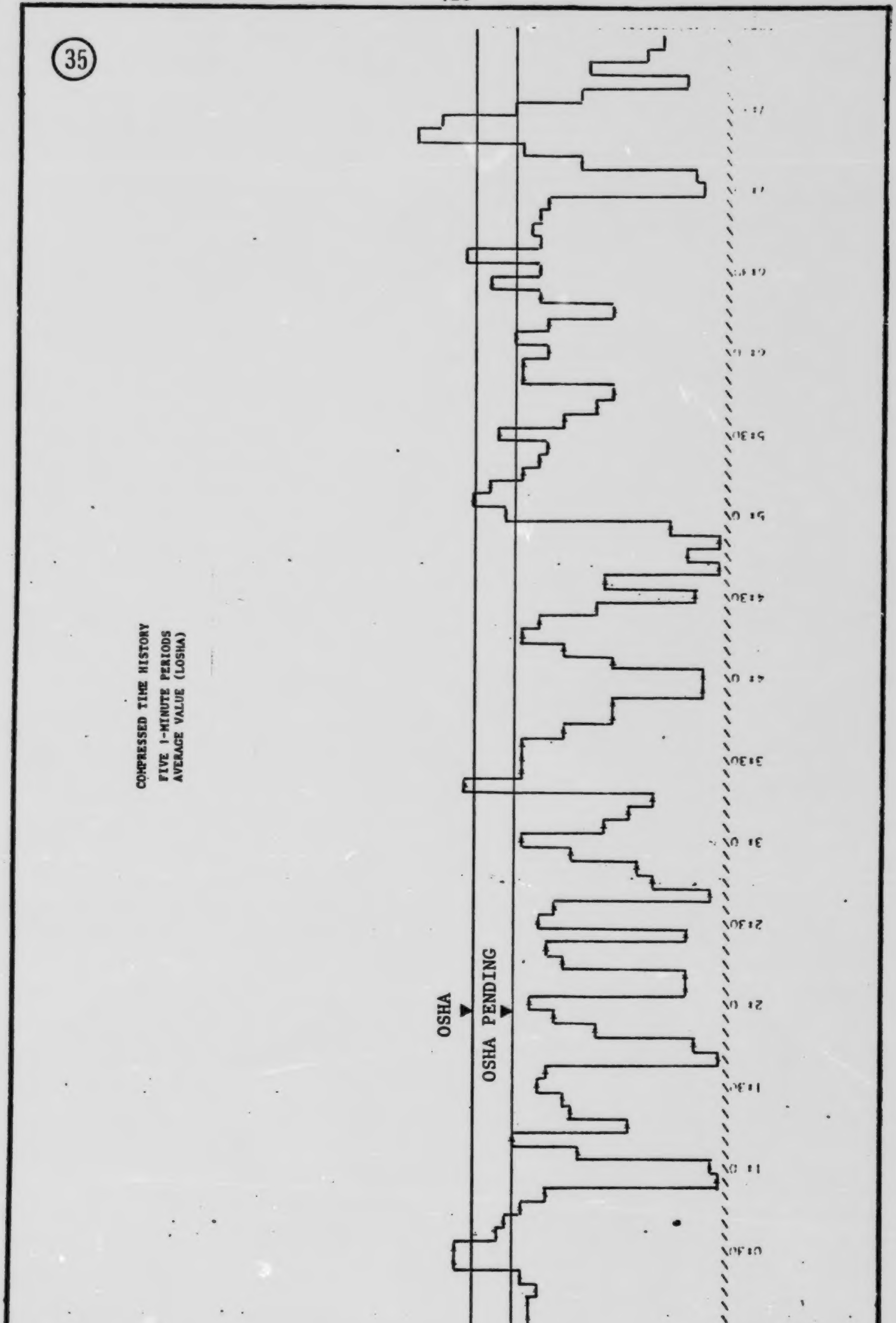
FREQUENCY		GROUP
NUMBER	PER CENT	
130	27.1	60 TO 64
33	6.9	65 TO 69
47	9.8	70 TO 74
35	7.3	75 TO 79
149	31.0	80 TO 84
51	10.6	85 TO 89
32	6.7	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480


35
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30

(36)

Operator (O-area)

```
PLACE TAG TO READER THEN TYPE A 'READY' AND A 'RETURN'
  1  25  80  1220   50    64      4     1
       97     115200  480
    85  85  85  84  82  84  84  81  92  91  92  81  80  83  85  82
    81  82  82  82  81  84  80  91  92  82  74  76  77  76  76  65
    76  80  80  88  88  89  89  89  89  89  89  77  86  72  90  93
    93  93  92  91  88  90  86  83  81  85  60  64  60  60  60  60
    61  63  78  81  83  85  81  83  85  84  83  84  84  82  80  80
    80  81  71  70  64  75  85  86  86  85  85  83  81  82  82  83
    82  82  81  81  82  82  81  80  83  83  89  89  91  91  91  92
    88  91  91  91  91  91  91  91  92  91  91  91  86  82  80  80
    82  82  82  81  80  79  81  75  83  83  82  81  82  83  83  83
    82  83  83  82  82  83  87  89  91  86  77  79  76  78  78  79
    80  78  78  78  86  87  72  71  60  60  60  70  61  60  60  60
    60  60  60  60  60  60  60  61  60  60  60  60  60  71  60  60
    60  60  72  75  81  82  84  84  83  84  83  83  83  82  83  83
    83  83  83  83  85  84  83  83  83  85  83  84  83  85  88  89
    88  88  85  85  83  78  60  83  83  82  83  81  82  76  78  63
    79  84  82  82  83  82  79  78  78  78  81  78  60  60  60  70
    72  67  61  63  60  60  66  68  67  79  80  81  70  69  62  68
    83  89  91  90  91  89  87  75  75  70  75  60  75  77  75  87
    88  92  90  89  91  87  83  83  84  85  85  84  84  85  83  85
    87  86  86  83  82  81  76  83  82  92  84  85  84  84  84  85
    85  84  85  85  85  90  90  90  90  89  89  89  89  89  89  89
    89  89  89  89  69  89  89  69  89  86  82  82  86  88  90  94
    90  91  93  91  89  89  90  92  92  93  90  89  92  93  93  93
    93  89  89  89  92  89  83  72  81  82  82  82  82  81  81  83
    77  79  82  84  82  81  82  84  82  82  82  83  78  86  69  77
    81  81  82  82  82  82  83  84  82  82  85  82  82  83  82  64
    69  75  74  82  79  82  85  78  69  62  60  60  60  60  70  81
    74  60  81  84  90  92  85  83  85  86  86  87  86  86  87  87
    86  86  86  86  85  84  84  84  85  85  65  85  85  85  84  84
    84  84  84  84  64  81  83  83  82  82  71  60  69  77  75  76
#EOF




ENTER LOG DATE (MO/DY/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILEA
ENTER USER CODE (4 CHARS) : 4037
 ENTER JOB CODE (3 CHARS) : 174




    DATA LOGGED :29 JUNE 1979                DATA ANALYZED : 28  AUG 1979
          LOGGER : DB-301/26                      SITE CODE : MILEA
   SERIAL NUMBER : 1220                            JOB CODE : 174
        BASELINE : 50 DB                          USER CODE : 4037
   DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                   STANDBY TIME =   0: 0:24

             TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME            LOSHA                      %DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       85.3       85.3            6.502       6.50
   2       84.7       85.0            6.002      12.50
   3       82.1       84.2            4.180      16.68
   4       81.4       83.6            3.796      20.48
   5       82.3       83.3            4.301      24.78
   6       87.6       84.2            9.015      33.80
   7       85.0       84.4            6.276      40.07
   8       83.1       84.2            4.785      44.86
MIN. COMP. =  60 DB                 MAX. COMP. =  94 DB
ARITHMETIC MEAN = [illegible]
STD. DEVIATION =   9 [illegible]
VARIANCE = 81 DB
```

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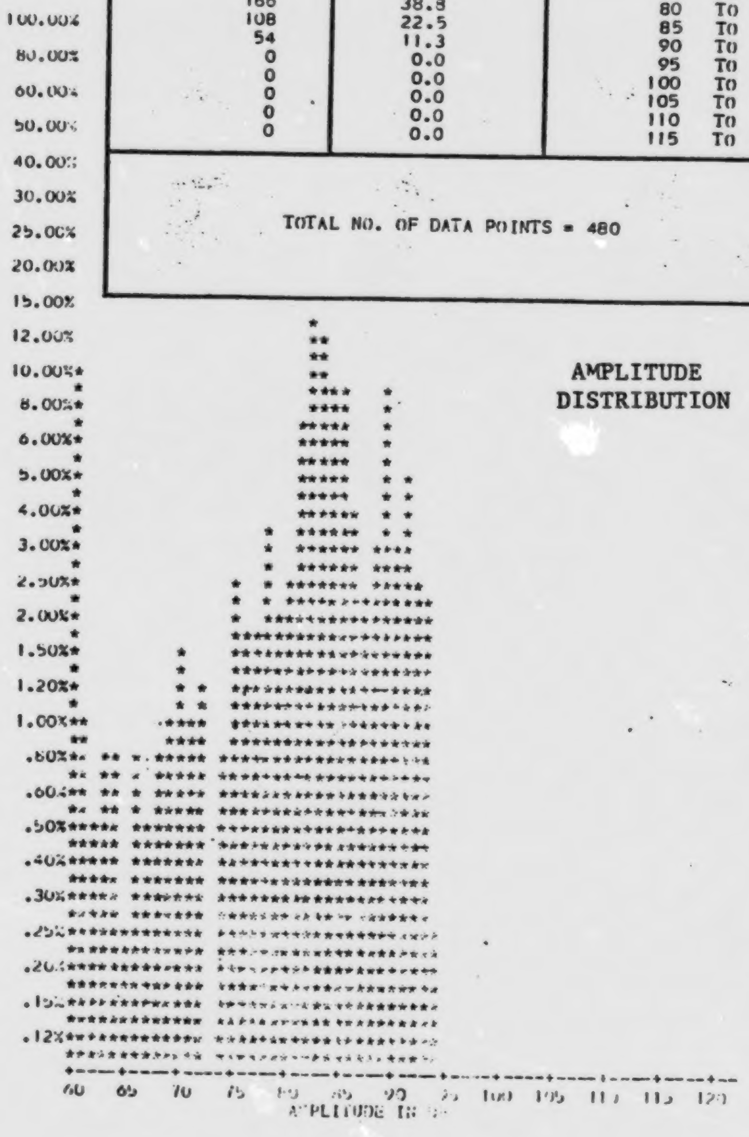
FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
54	11.3	60 TO 64
13	2.7	65 TO 69
18	3.8	70 TO 74
47	9.8	75 TO 79
186	38.8	80 TO 84
108	22.5	85 TO 89
54	11.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

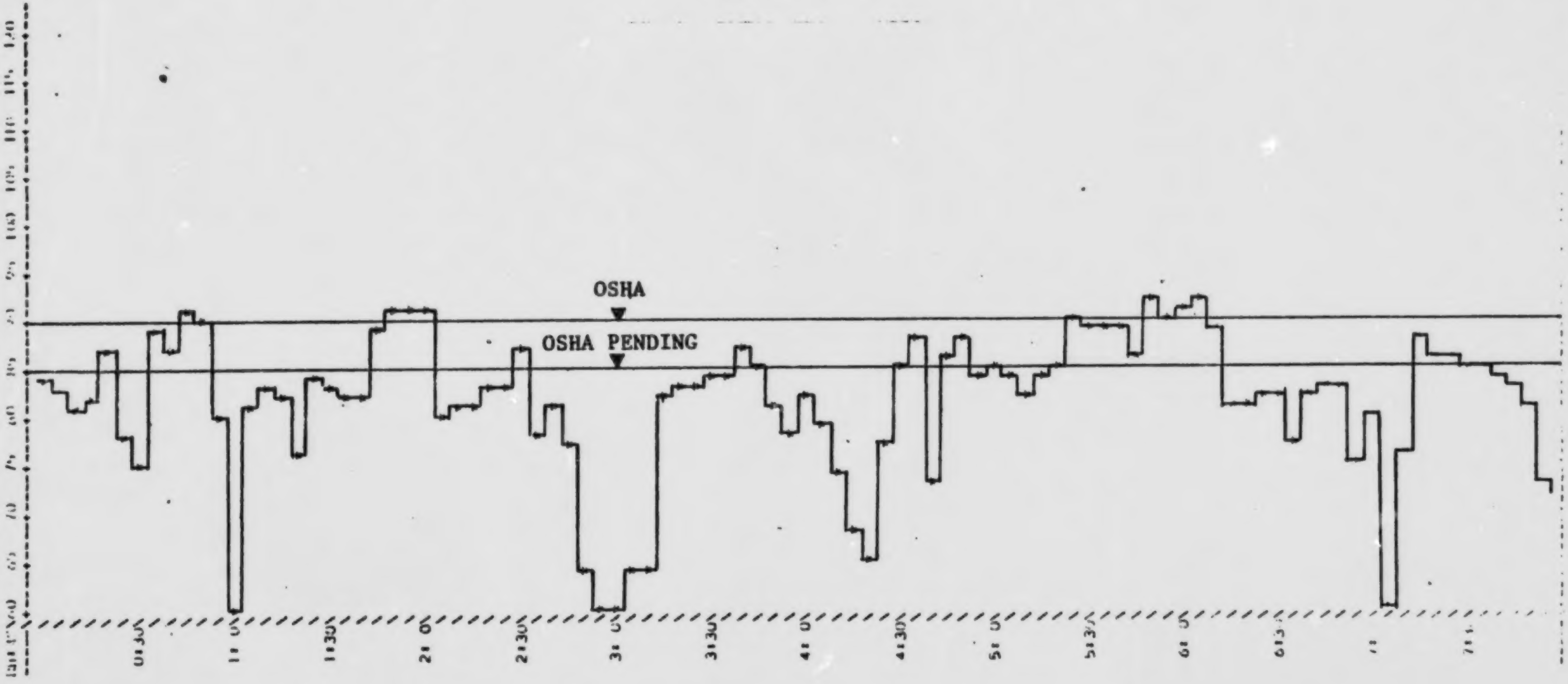


AMPLITUDE DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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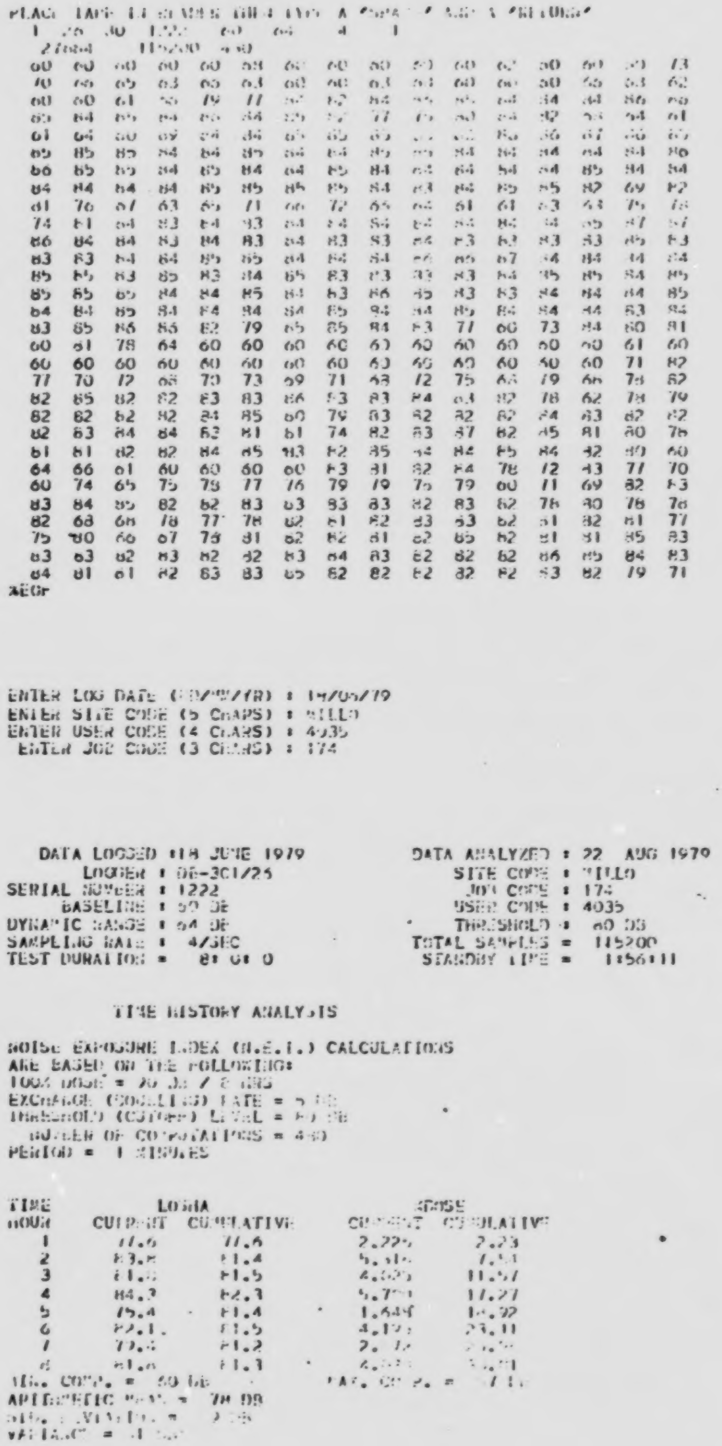
(37)

Operator Helper (O-area)



```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  30  1222   60   64     4     1
   27684      115200   480
   60   60   60   60   60   58   60   60   60   60   60   62   60   60   60   73
   70   66   65   63   65   63   60   60   63   63   60   66   60   65   63   62
   60   60   61   56   79   77   82   82   84   85   85   84   84   84   86   80
   85   84   85   84   85   84   85   82   77   75   80   84   82   83   84   81
   61   64   80   69   84   84   85   85   85   85   85   85   86   87   86   85
   85   85   85   84   84   85   84   84   85   83   84   84   84   84   84   86
   86   85   85   84   85   84   84   85   84   84   84   84   84   85   84   84
   84   84   84   84   85   85   85   85   84   83   84   85   85   82   69   82
   81   76   67   63   65   71   66   72   65   64   61   61   63   63   75   78
   74   81   84   83   84   83   84   84   84   84   84   84   84   85   87   87
   86   84   84   83   84   83   84   83   83   84   83   83   83   83   85   83
   83   83   84   84   85   85   84   84   84   86   85   87   84   84   84   84
   85   85   83   85   83   84   85   83   83   83   83   84   85   85   84   85
   85   85   85   84   84   85   84   83   86   85   83   83   84   84   84   85
   84   84   85   84   84   84   84   85   94   84   85   84   84   84   83   84
   83   85   86   85   82   79   85   85   84   83   71   60   73   84   80   81
   60   61   78   64   60   60   60   60   60   60   60   60   60   60   61   60
   60   60   60   60   60   60   60   60   60   60   60   60   60   60   71   82
   77   70   72   68   70   73   69   71   63   72   75   66   79   66   78   82
   82   85   82   82   83   83   86   83   83   84   83   82   78   62   78   79
   82   82   82   82   84   85   80   79   83   82   82   82   84   83   82   82
   82   83   84   84   83   81   61   74   82   83   87   82   85   81   80   76
   61   81   82   82   84   85   83   82   85   84   84   85   84   82   80   60
   64   66   61   60   60   60   60   83   81   82   84   78   72   83   77   70
   60   74   65   75   78   77   76   79   79   75   79   60   71   69   82   83
   83   84   85   82   82   83   83   83   83   82   83   82   76   80   76   78
   82   68   68   78   77   78   82   81   82   83   83   82   81   82   81   77
   75   80   66   67   78   81   82   82   81   82   85   82   81   81   85   83
   83   83   82   83   82   82   83   84   83   82   82   82   86   85   84   83
   84   81   81   82   83   83   85   82   82   82   82   82   83   82   79   71
%EOF


ENTER LOG DATE (DD/MM/YR) : 18/06/79
ENTER SITE CODE (5 CHARS) : MILLO
ENTER USER CODE (4 CHARS) : 4035
 ENTER JOB CODE (3 CHARS) : 174


    DATA LOGGED :18 JUNE 1979           DATA ANALYZED : 22  AUG 1979
          LOGGER : DS-301/25                 SITE CODE : MILLO
SERIAL NUMBER : 1222                          JOB CODE : 174
      BASELINE : 50 DB                        USER CODE : 4035
DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                 STANDBY TIME =   1:56:11

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME            LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
   1       77.6       77.6            2.225       2.23
   2       83.8       81.4            5.318       7.54
   3       81.3       81.5            4.025      11.57
   4       84.3       82.3            5.700      17.27
   5       75.4       81.4            1.648      18.92
   6       82.1       81.5            4.193      23.11
   7       79.3       81.2            [illegible] [illegible]
   8       81.6       81.3            [illegible] [illegible]
MIN. COMP. =  60 DB               MAX. COMP. =  [illegible]
ARITHMETIC MEAN =  78 DB
STD. DEVIATION =  [illegible]
VARIANCE = [illegible]
```

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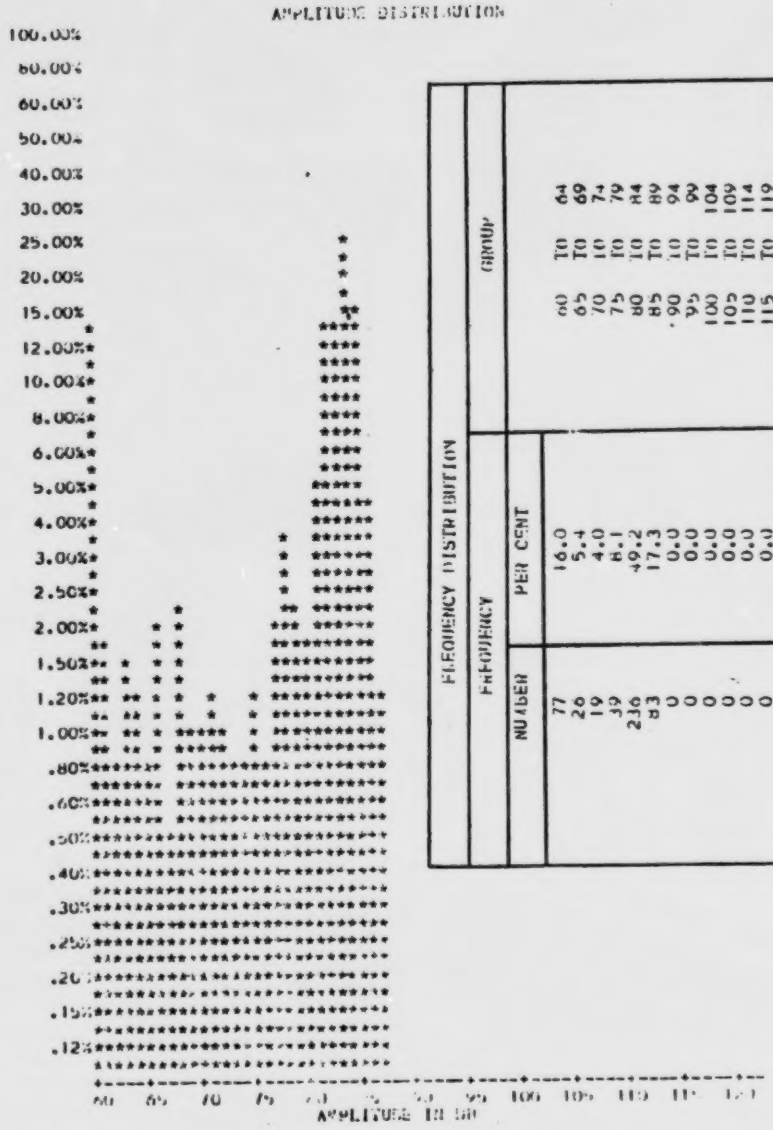
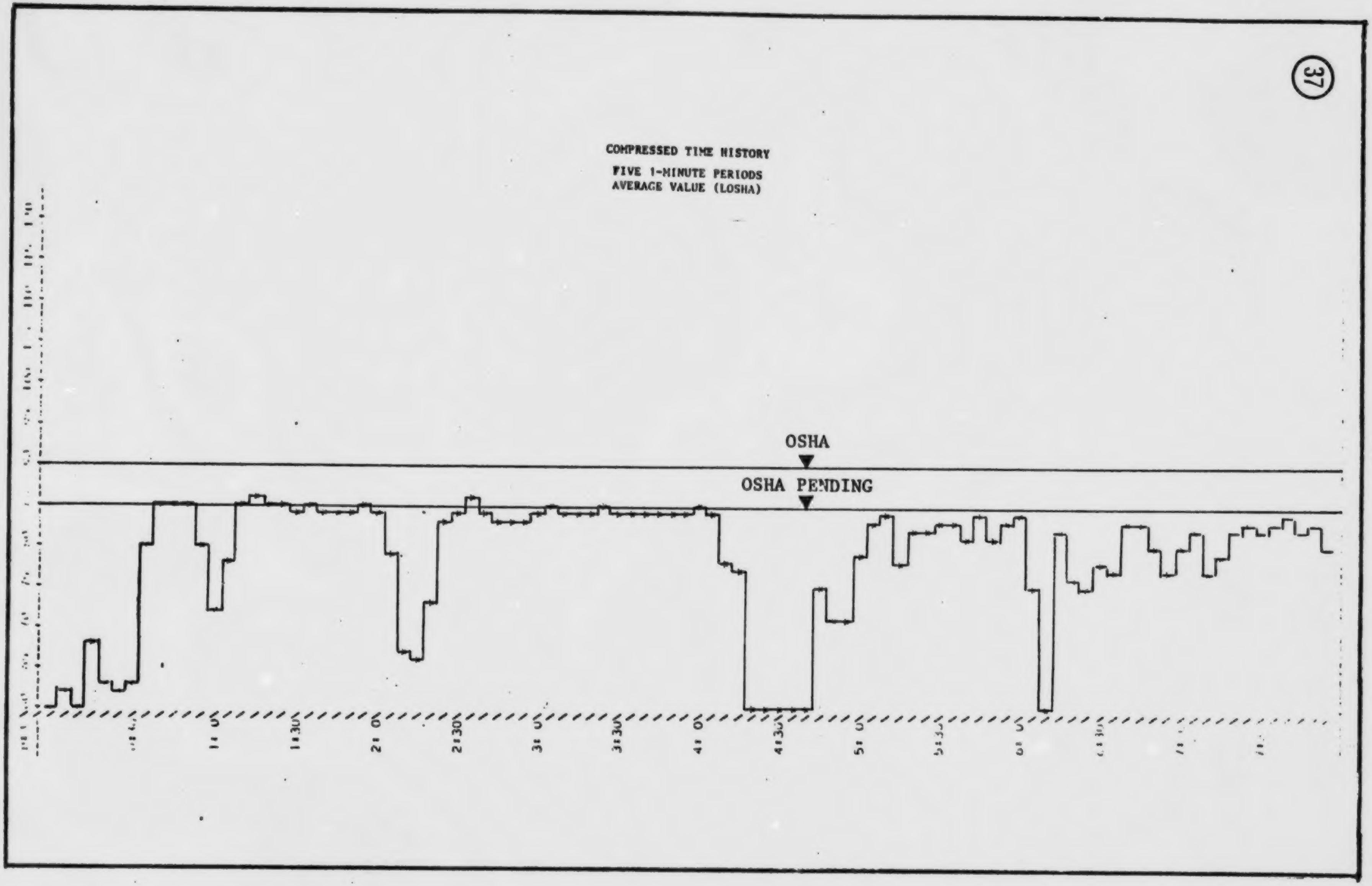


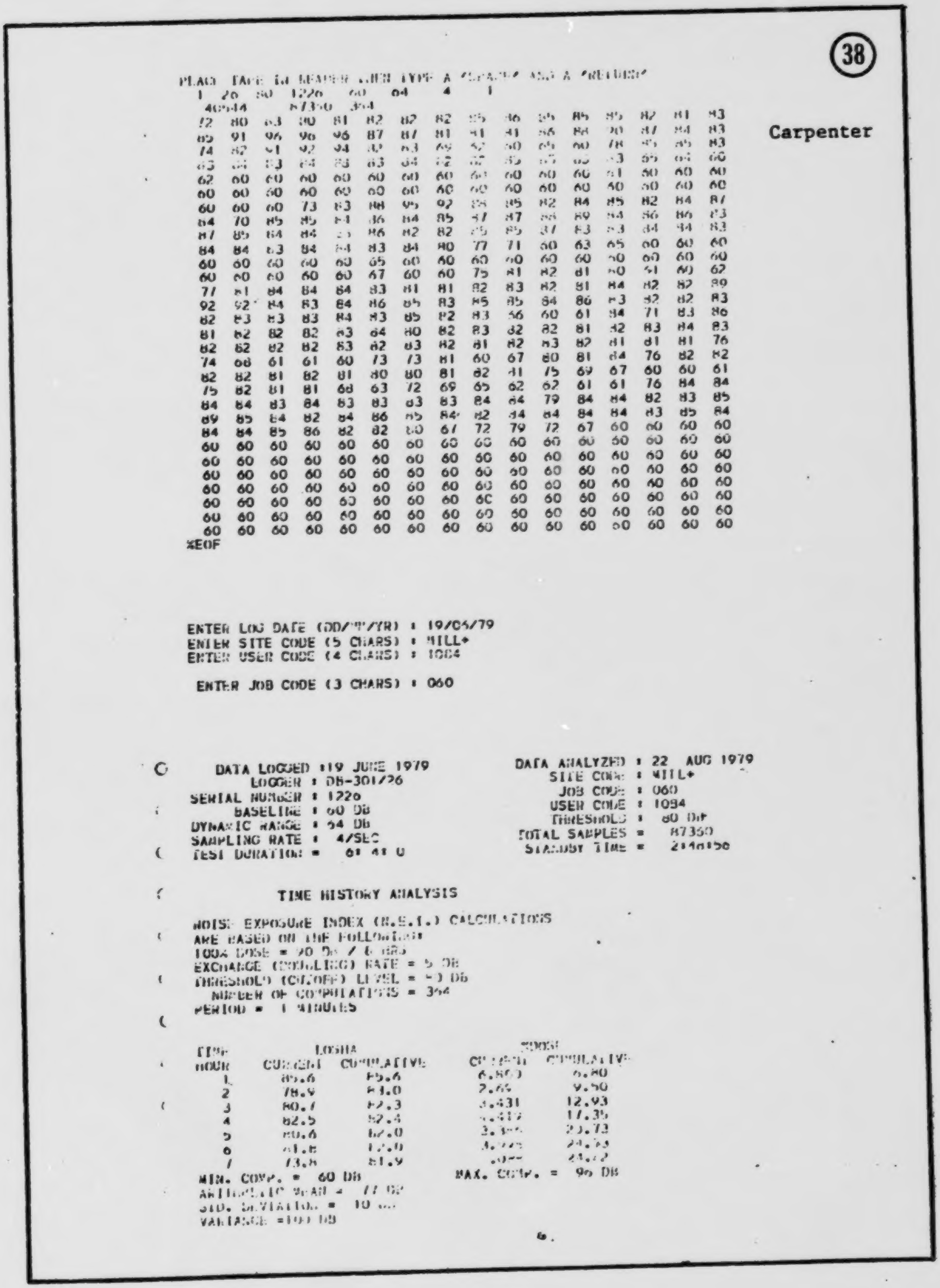
FREQUENCY DISTRIBUTION

GROUP			FREQUENCY NUMBER	FREQUENCY PER CENT
60	TO	64	77	16.0
65	TO	69	26	5.4
70	TO	74	19	4.0
75	TO	79	39	8.1
80	TO	84	236	49.2
85	TO	89	83	17.3
90	TO	94	0	0.0
95	TO	99	0	0.0
100	TO	104	0	0.0
105	TO	109	0	0.0
110	TO	114	0	0.0
115	TO	119	0	0.0

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


㊲
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
6:0
6:30



(38)

Carpenter

```
PLACE TAPE IN READER THEN TYPE A 'CLEAR' AND A 'RETURN'
 1  26  80  1226   60   64    4     1
  40544       87350  364
 72  80  83  80  81  82  82  82  85  86  85  85  85  82  81  83
 85  91  96  96  96  87  87  81  81  81  86  88  90  87  84  83
 74  82  81  92  94  80  83  69  62  60  65  60  78  85  85  83
 83  84  83  84  83  83  84  72  62  65  65  65  63  65  64  60
 62  60  60  60  60  60  60  60  60  60  60  60  61  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  73  83  88  95  92  88  85  82  84  85  82  84  87
 84  70  85  85  84  86  84  85  87  87  88  89  84  86  86  83
 87  85  84  84  85  86  82  82  85  85  87  83  83  84  84  83
 84  84  83  84  84  83  84  80  77  71  60  63  65  60  60  60
 60  60  60  60  60  65  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  67  60  60  75  81  82  81  80  81  60  62
 77  81  84  84  84  83  81  81  82  83  82  81  84  82  82  89
 92  92  84  83  84  86  85  83  85  85  84  86  83  82  82  83
 82  83  83  83  84  83  85  82  83  86  60  61  84  71  83  86
 81  82  82  82  83  84  80  82  83  82  82  81  82  83  84  83
 82  82  82  82  83  82  83  82  81  82  83  82  81  81  81  76
 74  68  61  61  60  73  73  81  60  67  80  81  84  76  82  82
 82  82  81  82  81  80  80  81  82  81  75  69  67  60  60  61
 75  82  81  81  68  63  72  69  65  62  62  61  61  76  84  84
 84  84  83  84  83  83  83  83  84  84  79  84  84  82  83  85
 89  85  84  82  84  86  85  84  82  84  84  84  84  83  85  84
 84  84  85  86  82  82  80  67  72  79  72  67  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  6C  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 1084

 ENTER JOB CODE (3 CHARS) : 060


    DATA LOGGED :19 JUNE 1979              DATA ANALYZED : 22  AUG 1979
          LOGGER : DB-301/26                     SITE CODE : MILL+
   SERIAL NUMBER : 1226                           JOB CODE : 060
        BASELINE : 60 DB                         USER CODE : 1094
   DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =   87350
   TEST DURATION =   6: 41 0                  STANDBY TIME =   2:10:56

              TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 80 DB
     NUMBER OF COMPUTATIONS = 364
   PERIOD =  1 MINUTES

   TIME           LOSHA                         DOSE
   HOUR     CURRENT   CUMULATIVE         CURRENT   CUMULATIVE
      1       85.6       85.6             6.800       6.80
      2       78.9       83.0             2.69        9.50
      3       80.7       82.3             3.431      12.93
      4       82.5       82.4             4.419      17.35
      5       80.6       82.0             3.3[illegible]      20.73
      6       81.8       82.0             3.[illegible]      24.[illegible]
      7       73.8       81.9              .9[illegible]      24.[illegible]
   MIN. COMP. =  60 DB                 MAX. COMP. =  96 DB
   ARITHMETIC MEAN =  77 DB
   STD. DEVIATION =  10 DB
   VARIANCE =100 DB

                                            6.
```

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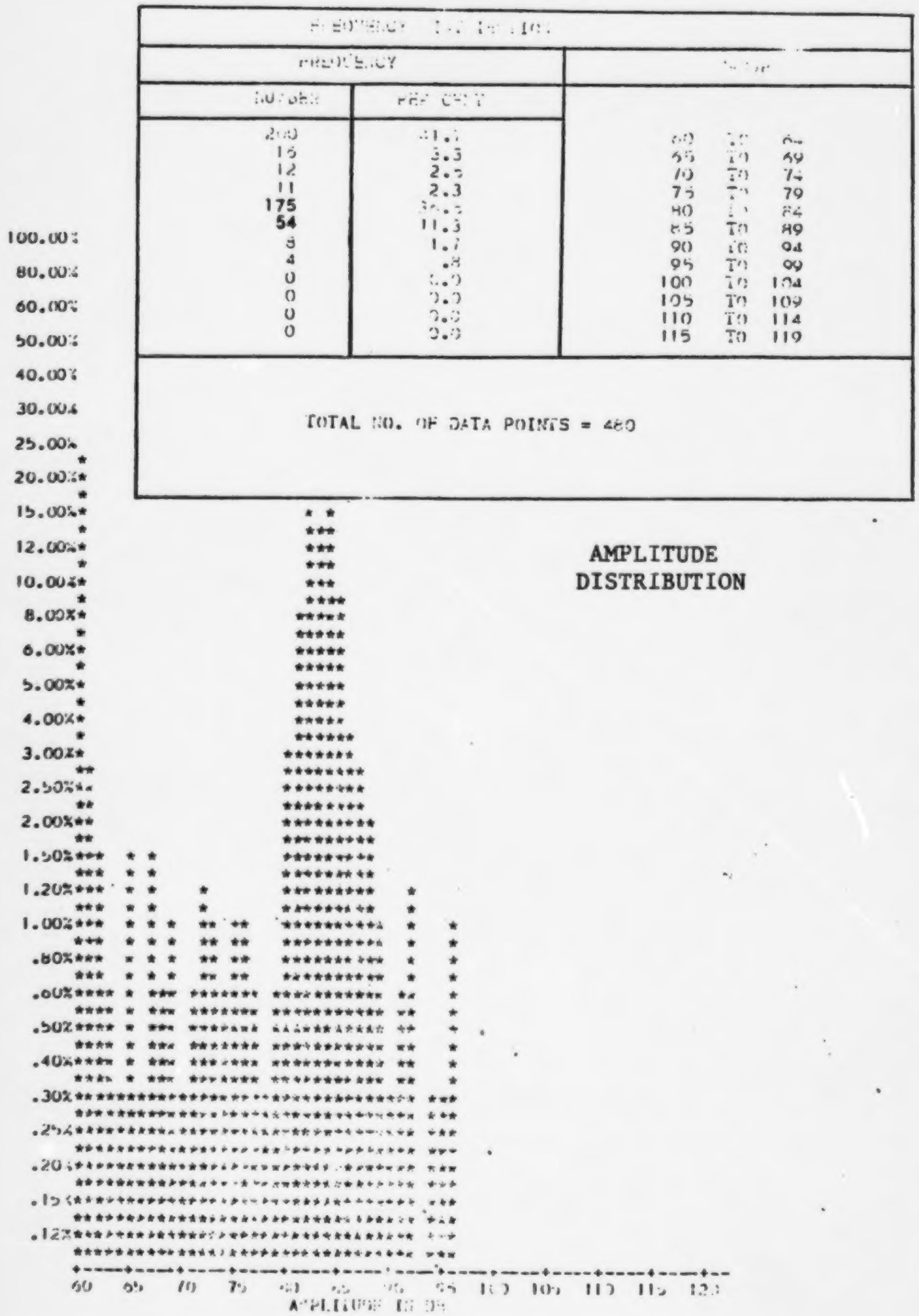
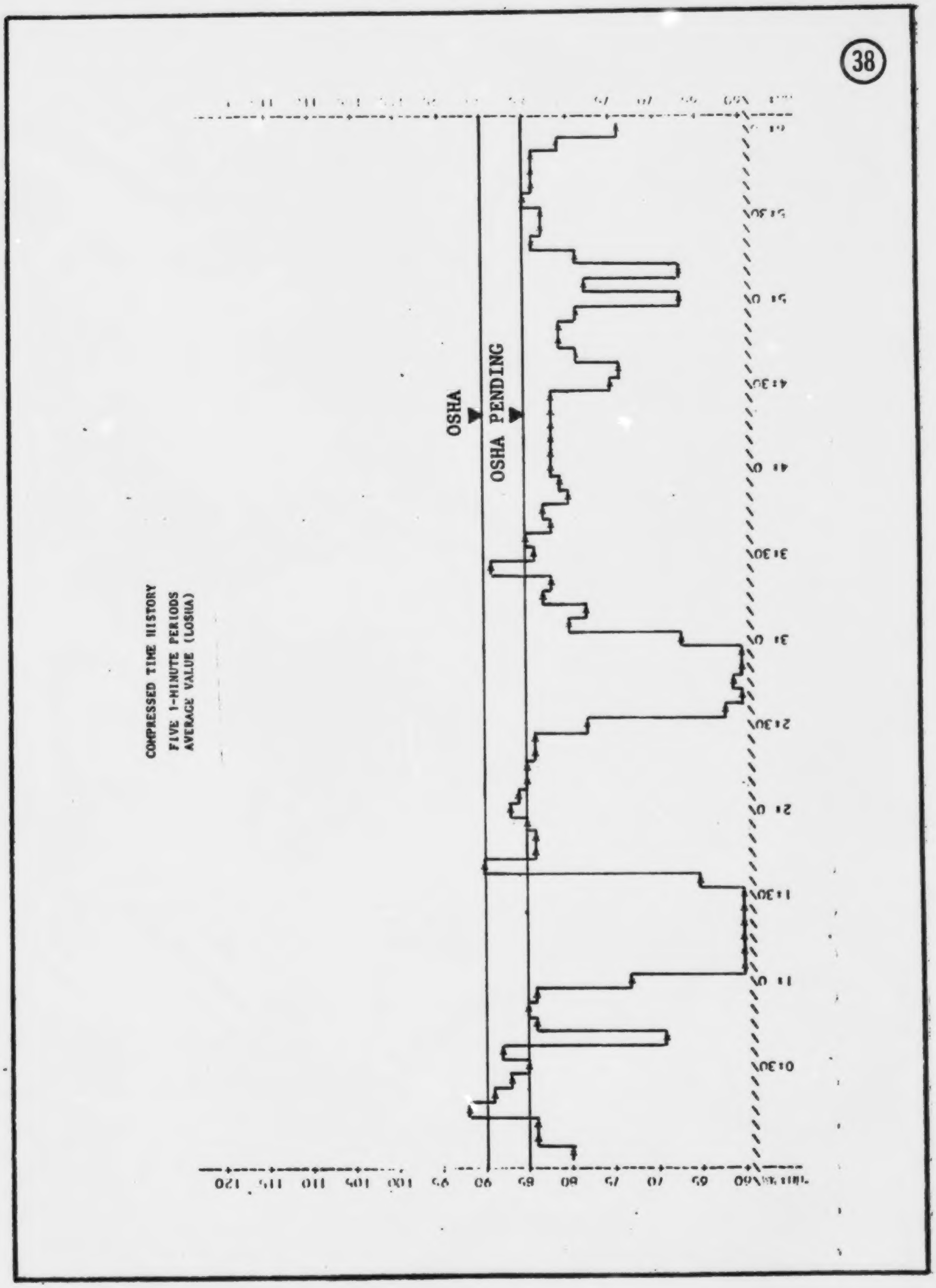


FREQUENCY DISTRIBUTION		
FREQUENCY		[illegible]
NUMBER	PER CENT	
200	41.7	60 TO 64
16	3.3	65 TO 69
12	2.5	70 TO 74
11	2.3	75 TO 79
175	36.5	80 TO 84
54	11.3	85 TO 89
8	1.7	90 TO 94
4	.8	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

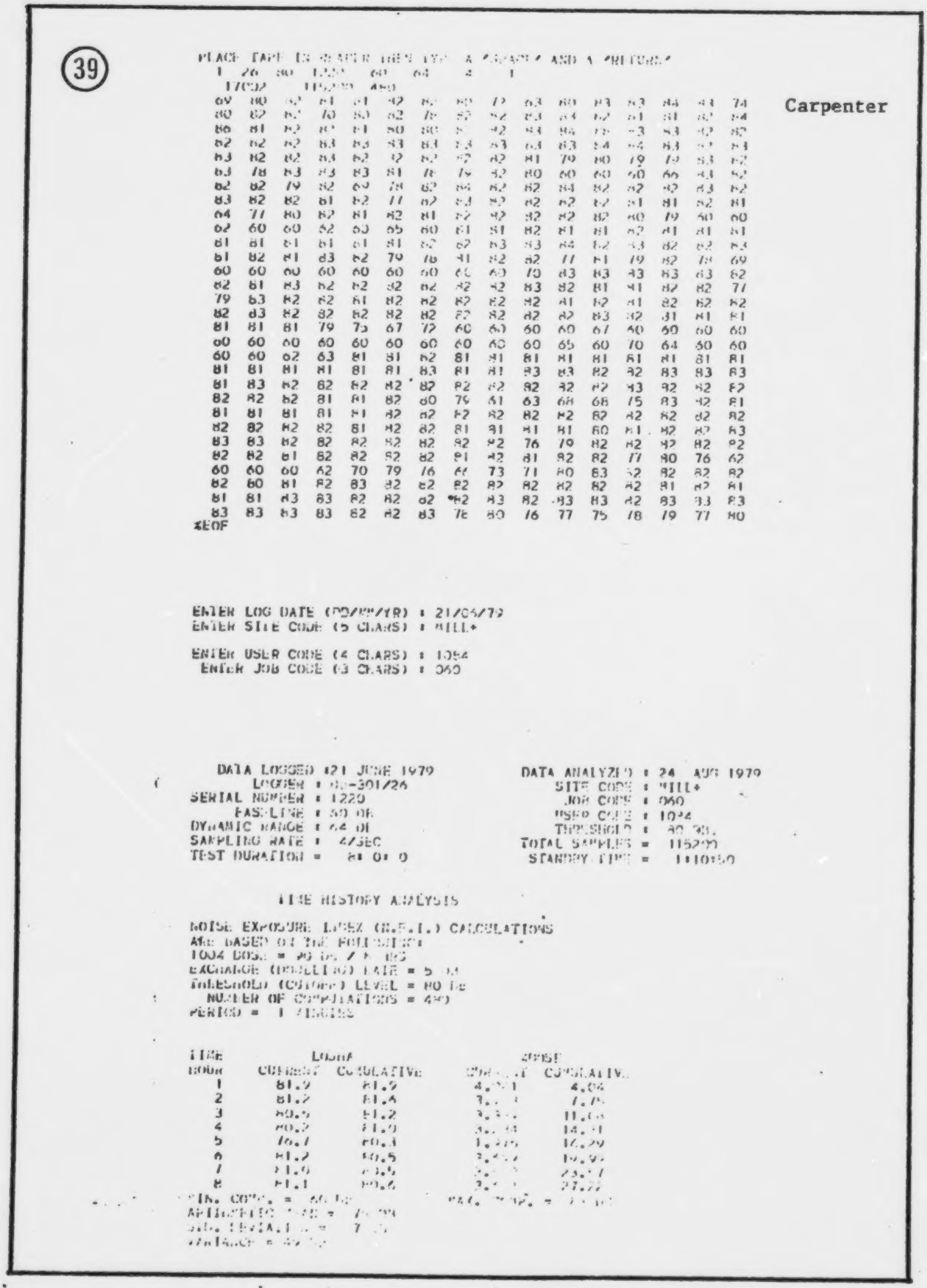
AMPLITUDE DISTRIBUTION

Number of computations = 364


38
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30

㊴

Carpenter



```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1220   60   64    4    1
   17092     115200  480
  69  80  82  81  81  82  82  80  72  83  80  83  83  84  83  74
  80  82  82  70  80  82  78  82  82  83  83  82  81  81  82  84
  86  81  82  82  81  80  80  8   82  83  84  78  83  83  82  82
  82  82  82  83  83  83  83  83  83  63  83  84  84  83  8   83
  83  82  82  83  82  82  82  82  82  81  79  80  79  79  83  82
  83  78  83  83  83  81  78  79  82  80  60  60  60  66  83  82
  82  82  79  82  69  78  82  84  82  82  84  82  82  82  83  82
  83  82  82  81  82  77  82  83  82  82  82  82  81  81  82  81
  64  77  80  82  81  82  81  82  82  82  82  82  80  79  60  60
  62  60  60  62  60  65  80  81  81  82  81  81  82  81  81  81
  81  81  81  81  81  81  82  82  83  83  84  82  83  82  82  83
  81  82  81  83  82  79  78  81  82  82  77  81  79  82  78  69
  60  60  60  60  60  60  60  66  60  70  83  83  83  83  83  82
  82  81  83  82  82  82  82  82  82  83  82  81  81  82  82  77
  79  83  82  82  81  82  82  82  82  82  81  82  81  82  82  82
  82  83  82  82  82  82  82  82  82  82  82  83  82  81  81  81
  81  81  81  79  75  67  72  60  60  60  60  67  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  65  60  70  64  60  60
  60  60  62  63  81  81  82  81  81  81  81  81  81  81  81  81
  81  81  81  81  81  81  83  81  81  83  83  82  82  83  83  83
  81  83  82  82  82  82  82  82  82  82  82  82  83  82  82  82
  82  82  82  81  81  82  80  79  81  63  68  68  75  83  82  81
  81  81  81  81  81  82  82  82  82  82  82  82  82  82  82  82
  82  82  82  82  81  82  82  81  81  81  81  80  81  82  82  83
  83  83  82  82  82  82  82  82  82  76  79  82  82  82  82  82
  82  82  81  82  82  82  82  81  82  81  82  82  77  80  76  62
  60  60  60  62  70  79  76  66  73  71  80  83  82  82  82  82
  82  60  81  82  83  82  82  82  82  82  82  82  82  81  82  81
  81  81  83  83  82  82  82  82  83  82  83  83  82  83  83  83
  83  83  83  83  82  82  83  78  80  76  77  75  78  79  77  80
*EOF


ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 1054
 ENTER JOB CODE (3 CHARS) : 060

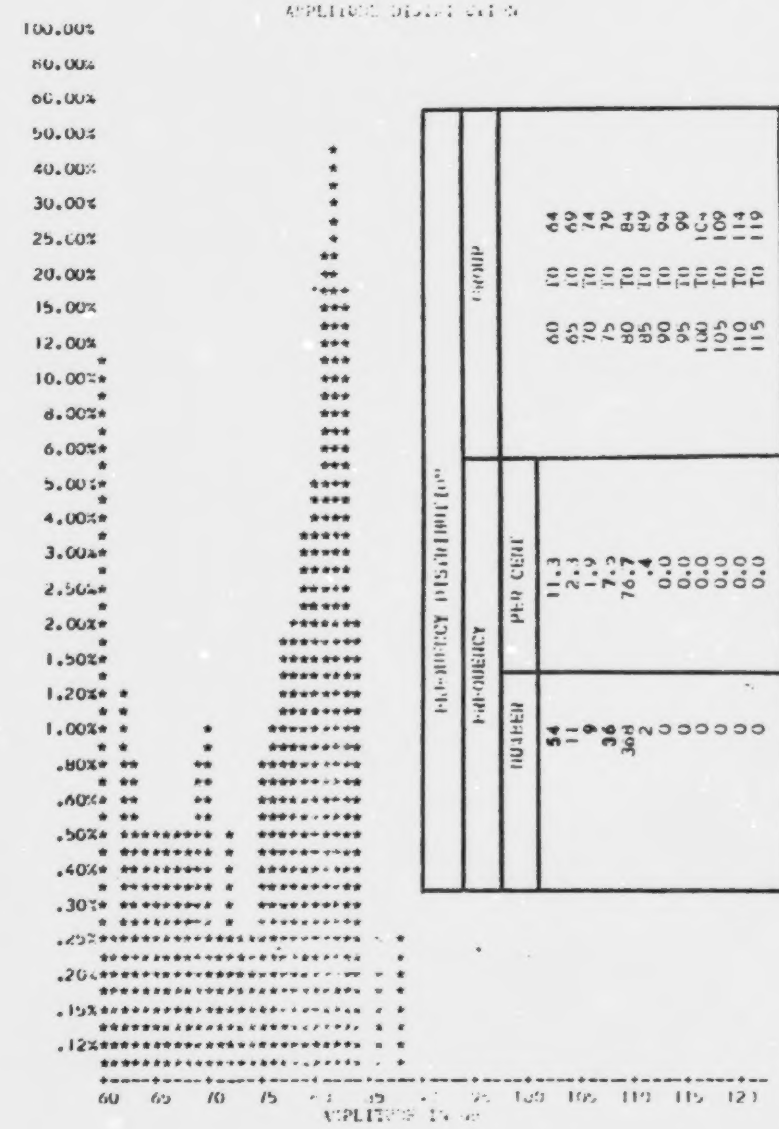

    DATA LOGGED :21 JUNE 1979             DATA ANALYZED : 24  AUG 1979
         LOGGER : [illegible]-301/26             SITE CODE : MILL+
  SERIAL NUMBER : 1220                          JOB CODE : 060
       BASELINE : 50 DB                        USER CODE : 1024
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB.
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0               STANDBY TIME =   1:10:50

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE L[illegible]EX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES

  TIME          LOSHA                       DOSE
  HOUR    CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       81.9       81.9            4.[illegible]1       4.04
    2       81.2       81.6            3.[illegible]        7.7[illegible]
    3       80.5       81.2            3.3[illegible]       11.[illegible]
    4       80.2       81.0            3.[illegible]        14.[illegible]1
    5       76.7       80.3            1.[illegible]        16.29
    6       81.2       80.5            3.[illegible]        19.9[illegible]
    7       81.0       80.5            3.[illegible]        23.[illegible]7
    8       81.1       80.6            3.[illegible]        27.7[illegible]
  MIN. CONC. =  60.[illegible]               MAX. CONC. = [illegible]
  ARITHMETIC MEAN =  7[illegible]
  STD. DEVIATION =   7.[illegible]
  VARIANCE = [illegible]
```

39



FREQUENCY DISTRIBUTION

GROUP	FREQUENCY NUMBER	FREQUENCY PER CENT
60 TO 64	54	11.3
65 TO 69	11	2.3
70 TO 74	9	1.9
75 TO 79	36	7.5
80 TO 84	368	76.7
85 TO 89	2	.4
90 TO 94	0	0.0
95 TO 99	0	0.0
100 TO 104	0	0.0
105 TO 109	0	0.0
110 TO 114	0	0.0
115 TO 119	0	

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

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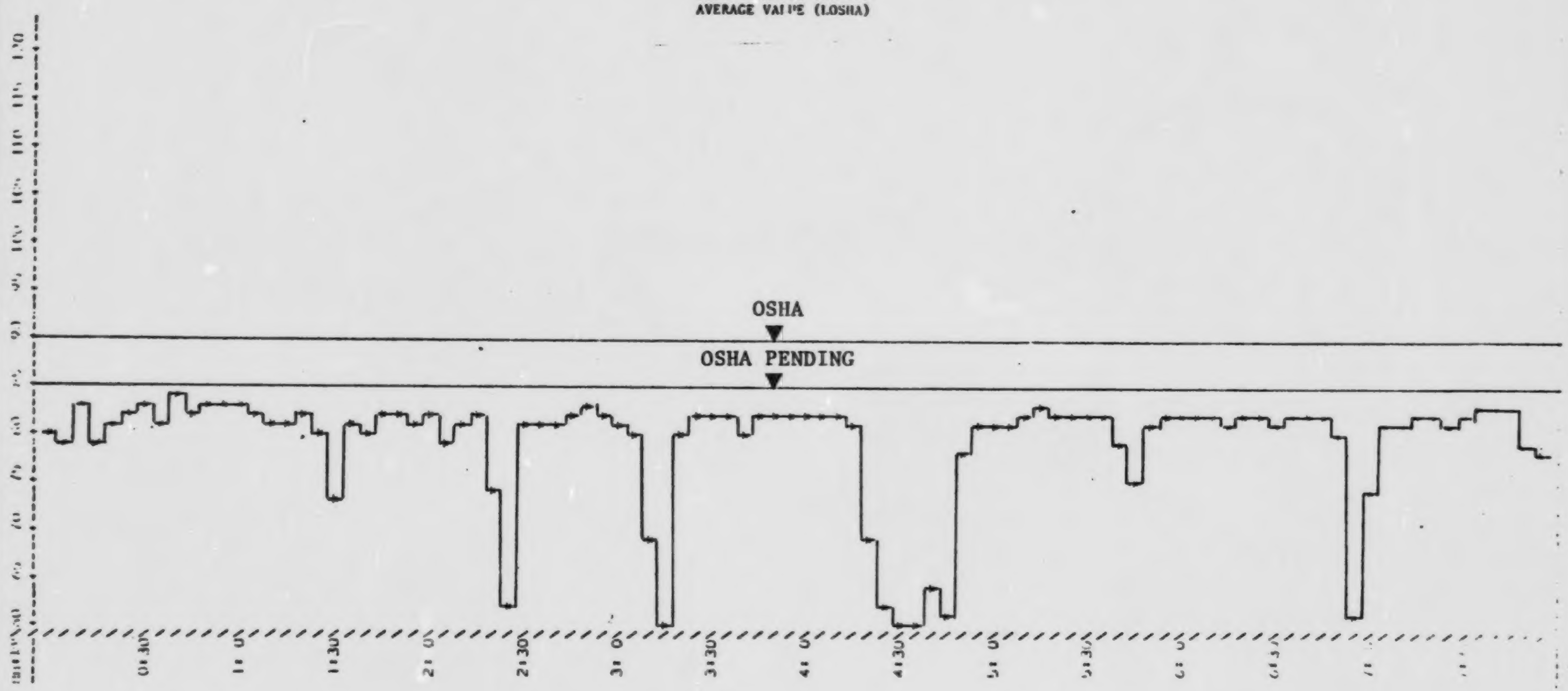
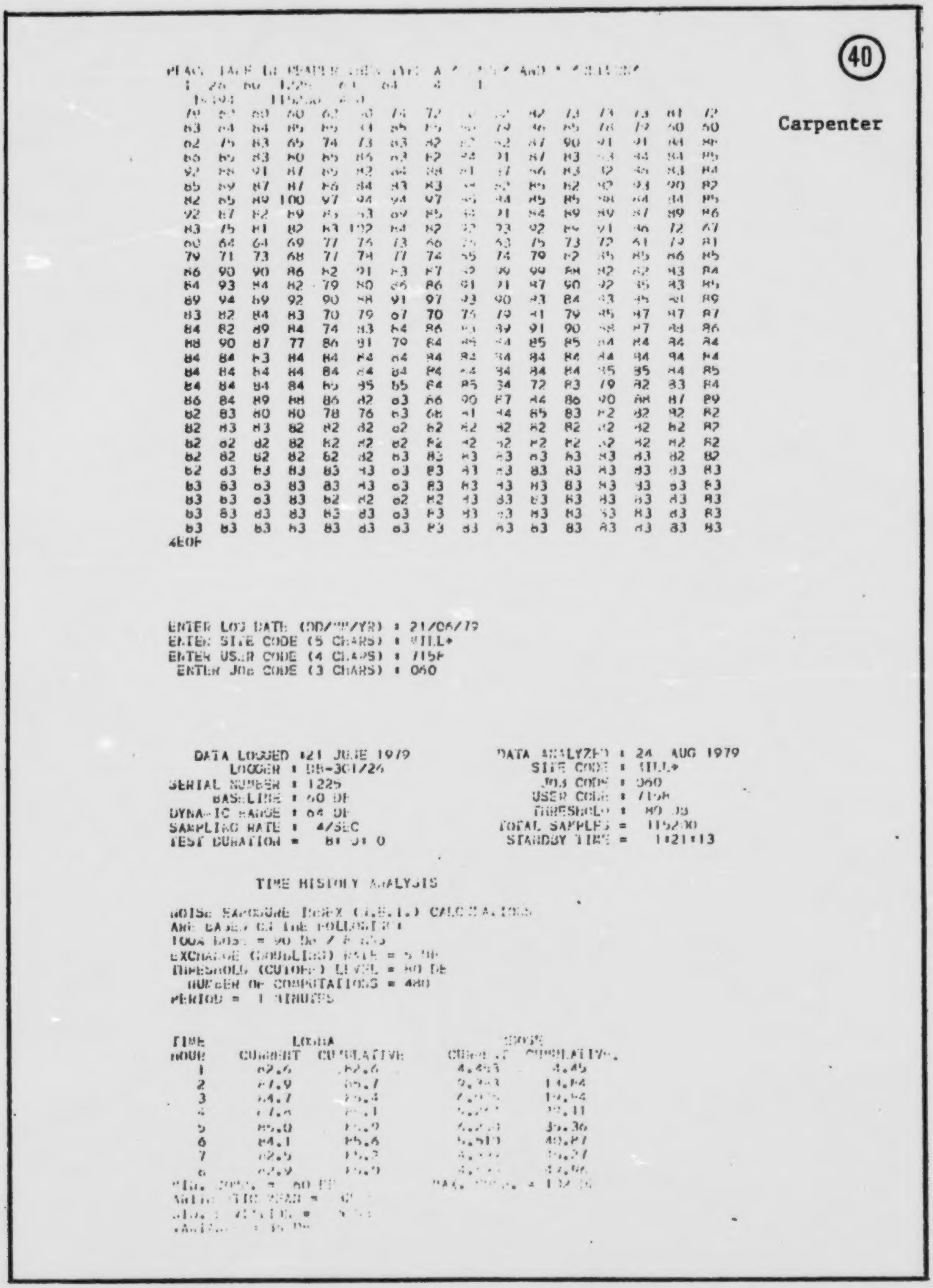
COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





(40)

Carpenter

```
PEAK [illegible] AND [illegible]
 1  26  80  1.22[illegible]  61  64   4   1
  1[illegible]93    115200  [illegible]
 79  [illegible]  80  80  62  [illegible]  74  72  [illegible]  [illegible]  82  73  73  73  81  72
 83  84  84  85  85  [illegible]  85  85  [illegible]  79  86  85  78  79  80  80
 82  75  83  65  74  73  83  82  [illegible]  82  87  90  91  91  84  86
 85  85  83  80  85  85  83  82  [illegible]  91  87  83  [illegible]  84  84  85
 92  88  91  87  85  82  84  88  81  87  86  83  82  85  83  84
 85  89  87  87  86  84  83  83  [illegible]  82  85  82  82  93  90  82
 82  85  89 100  97  94  94  97  [illegible]  84  85  85  88  84  84  85
 92  87  82  89  85  83  89  85  [illegible]  91  84  89  89  87  89  86
 83  75  81  82  83 102  84  82  [illegible]  73  92  84  91  86  72  67
 80  64  64  69  77  76  73  66  [illegible]  63  75  73  72  61  79  81
 79  71  73  68  77  78  77  74  55  74  79  82  85  85  86  85
 86  90  90  86  82  91  83  87  [illegible]  89  99  88  82  82  83  84
 84  93  84  82  79  80  86  86  91  91  87  90  92  85  83  85
 89  94  89  92  90  88  91  97  93  90  83  84  83  85  81  89
 83  82  84  83  70  79  87  70  75  79  81  79  85  87  87  87
 84  82  89  84  74  83  84  86  [illegible]  89  91  90  88  87  88  86
 88  90  87  77  86  91  79  84  85  84  85  85  84  84  84  84
 84  84  83  84  84  84  84  84  84  84  84  84  84  84  94  84
 84  84  84  84  84  84  84  84  84  84  84  84  85  85  84  85
 84  84  84  84  85  85  85  84  85  84  72  83  79  82  83  84
 86  84  89  88  86  82  83  86  90  87  84  86  90  88  87  89
 82  83  80  80  78  76  83  68  81  84  85  83  82  82  82  82
 82  83  83  82  82  82  82  82  82  82  82  82  82  82  82  82
 82  82  82  82  82  82  82  82  82  82  82  82  82  82  82  82
 82  82  82  82  82  82  83  82  83  83  83  83  83  83  82  82
 82  83  83  83  83  83  83  83  81  83  83  83  83  83  83  83
 83  83  83  83  83  83  83  83  83  83  83  83  83  83  83  83
 83  83  83  83  82  82  82  82  83  83  83  83  83  83  83  83
 83  83  83  83  83  83  83  83  83  83  83  83  53  83  83  83
 83  83  83  83  83  83  83  83  83  83  83  83  83  83  83  83
&EOF


ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 715F
 ENTER JOB CODE (3 CHARS) : 060


   DATA LOGGED :21 JUNE 1979           DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : MILL+
 SERIAL NUMBER : 1225                        JOB CODE : 060
      BASELINE : 60 DB                      USER CODE : 715F
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   1:21:13

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                      DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1      82.6      82.6           4.453      4.45
   2      87.9      85.7           9.[illegible]    14.84
   3      84.7      85.4           7.[illegible]    19.[illegible]4
   4      [illegible]      [illegible]     [illegible]       [illegible].11
   5      85.0      85.9           [illegible]      35.36
   6      84.1      85.6           5.510      40.87
   7      82.5      85.[illegible]     [illegible]      [illegible].27
   8      82.9      85.[illegible]     [illegible]      [illegible].86
MIN. [illegible] = 80 [illegible]         MAX. [illegible] = 132 [illegible]
[illegible]
[illegible]
[illegible]
```

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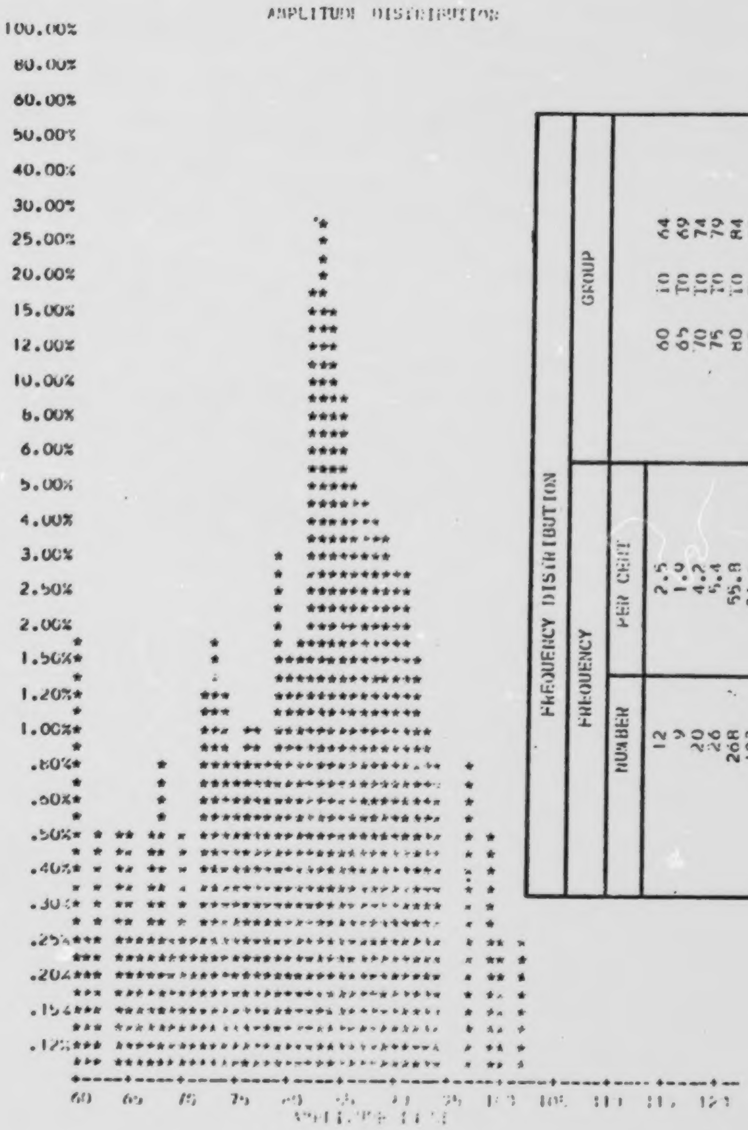


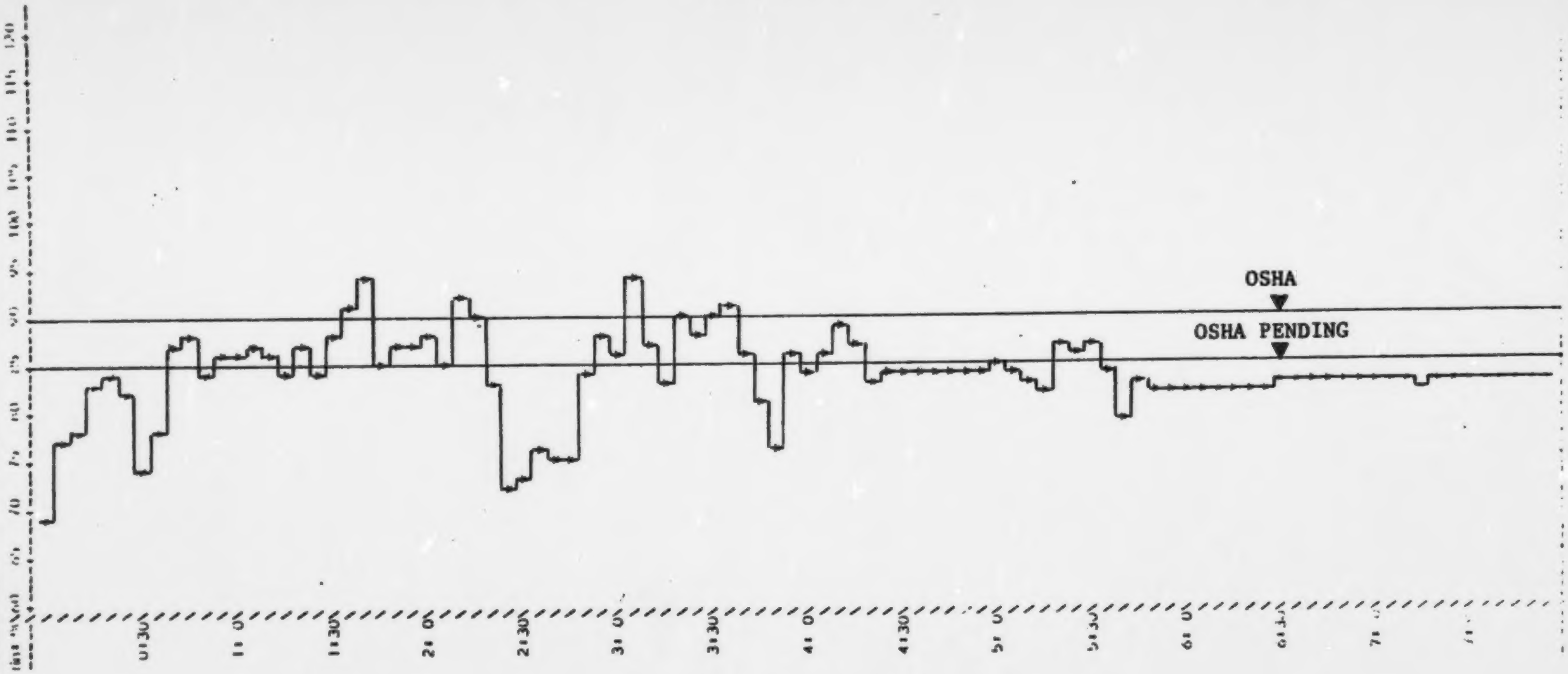
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
12	2.5	60 TO 64
9	1.9	65 TO 69
20	4.2	70 TO 74
26	5.4	75 TO 79
268	55.8	80 TO 84
103	21.5	85 TO 89
35	7.3	90 TO 94
5	1.0	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(41)

Painter

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]

 1  26  80  1213   60   64     4     1
  23055      74399  309
 69  61  62  62  60  64  60  60  61  60  60  62  60  63  60  60
 60  61  60  72  64  87  64  69  65  69  71  63  70  80  86  92
 72  61  67  76  72  70  74  76  77  75  80  76  76  64  72  71
 76  67  81  79  81  88  68  87  84  65  87  86  76  75  76  85
 69  85  85  80  78  80  74  73  73  68  63  60  61  62  64  60
 60  73  60  60  61  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  75  60  60  64  60
 60  79  73  60  78  85  84  85  85  83  79  62  63  84  83  83
 63  76  73  81  75  80  67  67  66  65  85  85  84  83  76  85
 69  86  90  85  83  75  83  76  73  75  70  67  71  70  71  77
 71  68  73  61  61  77  61  80  83  85  67  84  84  84  82  85
 80  78  85  87  85  89  88  86  79  73  70  71  81  75  78  81
 85  85  64  83  82  81  81  81  82  85  81  85  85  89  84  81
 69  71  67  69  75  74  75  69  71  71  74  72  74  76  75  69
 76  77  77  75  73  71  74  71  77  71  74  69  77  73  73  69
 70  67  65  67  83  88  71  71  79  75  66  71  78  75  74  82
 85  69  81  80  83  85  82  78  74  61  85  83  85  86  85  85
 62  83  63  76  65  71  65  61  64  70  61  61  60  67  60  60
 66  63  65  84  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF


ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0601
 ENTER JOB CODE (3 CHARS) : 064


   DATA LOGGED :19 JUNE 1979           DATA ANALYZED : 22  AUG 1979
       LOGGER : DL-301/26                  SITE CODE : MILL+
SERIAL NUMBER : 1213                        JOB CODE : 064
     BASELINE : 60 DB                      USER CODE : 0601
DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =    74399
TEST DURATION =    5: 9:59              STANDBY TIME =    1:36: 3

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 309
PERIOD = 1 MINUTES


TIME          LOSHA                          [illegible]
HOUR     CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
   1       79.4      79.4              2.851       2.85
   2       71.6      75.6               .997       3.85
   3       80.8      78.2              3.469       7.35
   4       81.6      79.2              3.9[illegible]      11.2[illegible]
   5       78.3      79.1              2.4[illegible]      13.71
   6       75.1      78.7               .1[illegible]      13.9[illegible]
MIN. CONC. =  60 DB               MAX. CONC. =  94 DB
ARITHMETIC MEAN =  73 DB
STD. DEVIATION =  10 DB
VARIANCE =[illegible] DB
```

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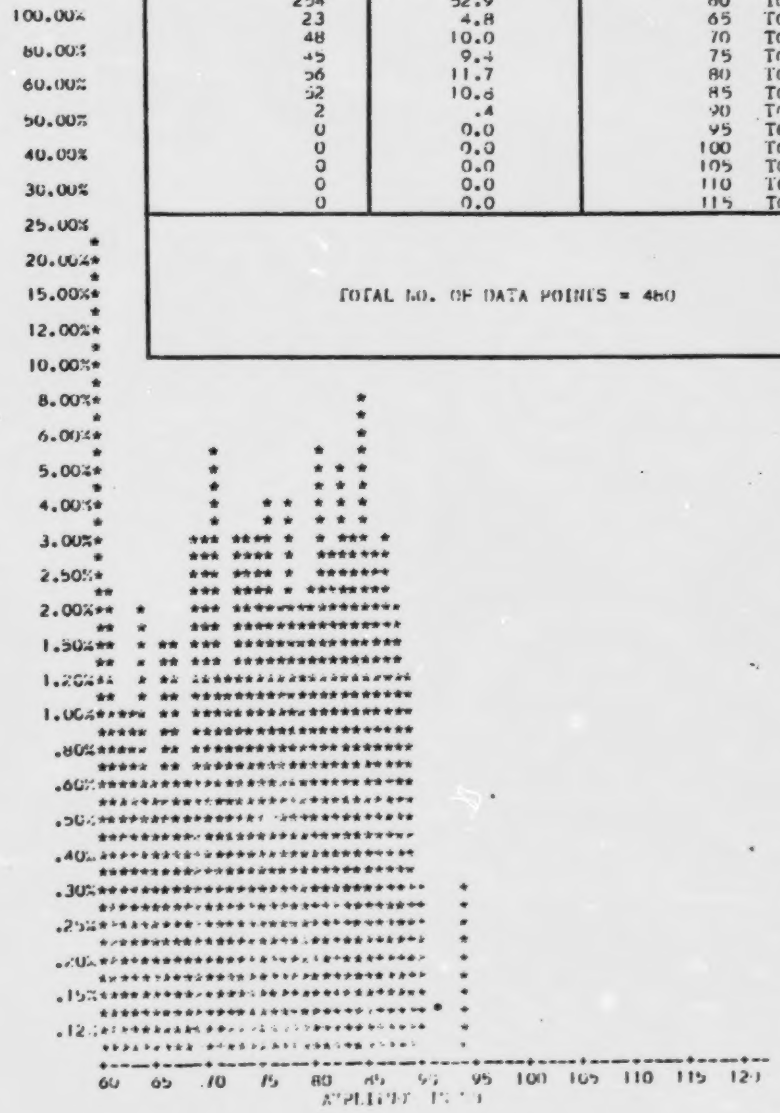
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
254	52.9	60 TO 64
23	4.8	65 TO 69
48	10.0	70 TO 74
45	9.4	75 TO 79
56	11.7	80 TO 84
52	10.8	85 TO 89
2	.4	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 309

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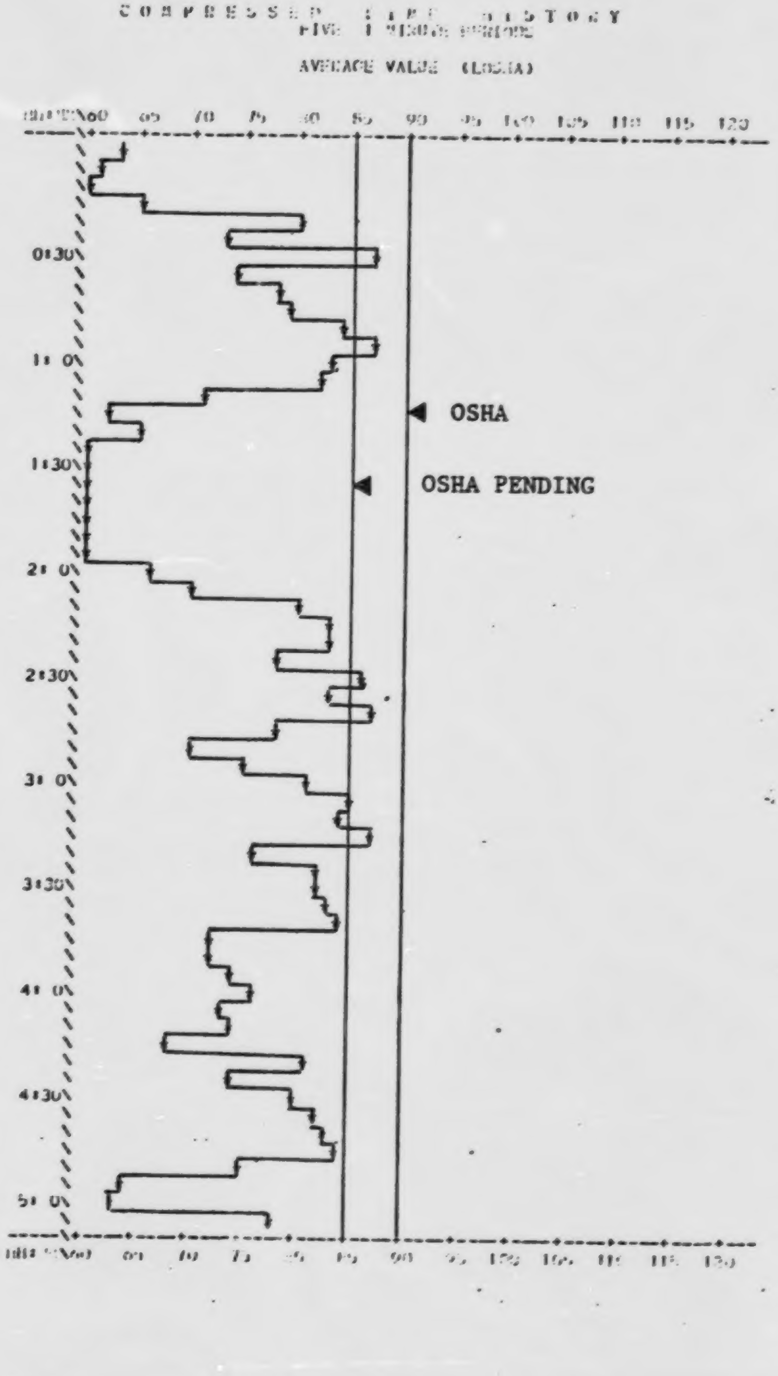

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS
AVERAGE VALUE (LOSHA)
HR:MIN 60 65 70 75 80 85 90 95 100 105 110 115 120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
OSHA
OSHA PENDING

(42)

Labourer

```
 PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1216   60   64    4    1
   11645     115200  480
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  71
  69  63  65  63  60  62  61  60  62  60  60  60  60  60  69  60
  61  60  60  60  63  60  65  62  60  63  60  65  60  60  62  65
  60  60  60  60  65  67  60  60  61  60  61  62  60  72  60  77
  78  81  80  82  85  85  82  61  74  76  74  62  84  85  85  83
  84  83  83  80  71  68  75  72  75  83  83  83  84  85  82  78
  74  79  70  71  79  85  80  86  94  82  84  81  75  82  77  77
  76  85  81  84  80  76  79  83  74  78  78  78  81  81  84  83
  83  84  85  84  84  84  84  83  85  85  85  85  85  84  84  84
  84  84  84  84  85  85  84  84  78  66  60  61  60  60  60  61
  67  61  65  60  60  60  60  60  72  78  84  83  83  84  86  85
  84  84  83  84  84  84  83  84  83  83  84  85  84  84  94  84
  84  85  84  85  86  84  85  84  84  84  84  85  85  84  84  85
  84  84  84  84  84  83  84  83  83  94  83  84  83  83  83  83
  83  83  84  83  84  84  84  85  84  83  67  83  84  83  81  80
  84  84  84  [illegible]  83  84  85  85  84  84  84  84  85  85  84  84
  84  84  85  84  84  84  84  85  84  85  86  85  86  84  84  84
  85  85  84  83  84  84  84  84  84  85  84  83  83  84  83  84
  84  84  85  85  84  84  85  85  85  85  85  83  83  82  74  60
  65  71  70  62  60  60  60  60  60  60  60  60  62  60  60  60
  60  60  60  60  60  60  61  60  60  62  60  60  60  62  60  60
  62  68  70  78  82  83  82  84  85  89  87  83  84  84  84  84
  83  84  83  84  84  83  84  84  85  84  84  84  84  83  83  85
  83  83  82  83  83  83  83  83  83  83  84  84  83  83  84  84
  84  84  84  84  84  84  84  84  83  88  84  84  84  83  83  83
  84  85  84  84  84  84  84  84  84  83  83  83  84  84  84  83
  83  83  83  82  81  84  73  63  72  65  71  68  81  61  72  70
  69  66  60  61  60  60  72  68  60  62  63  81  81  81  85  82
  81  80  84  82  82  83  83  83  83  83  83  83  82  83  83  83
  83  83  83  83  84  85  83  83  83  82  83  83  83  83  83  81
XEOF


 ENTER LOG DATE (DD/MM/YR) : 18/06/79
 ENTER SITE CODE (5 CHARS) : MILL-
 ENTER USER CODE (4 CHARS) : 0952
  ENTER JOB CODE (3 CHARS) : 176

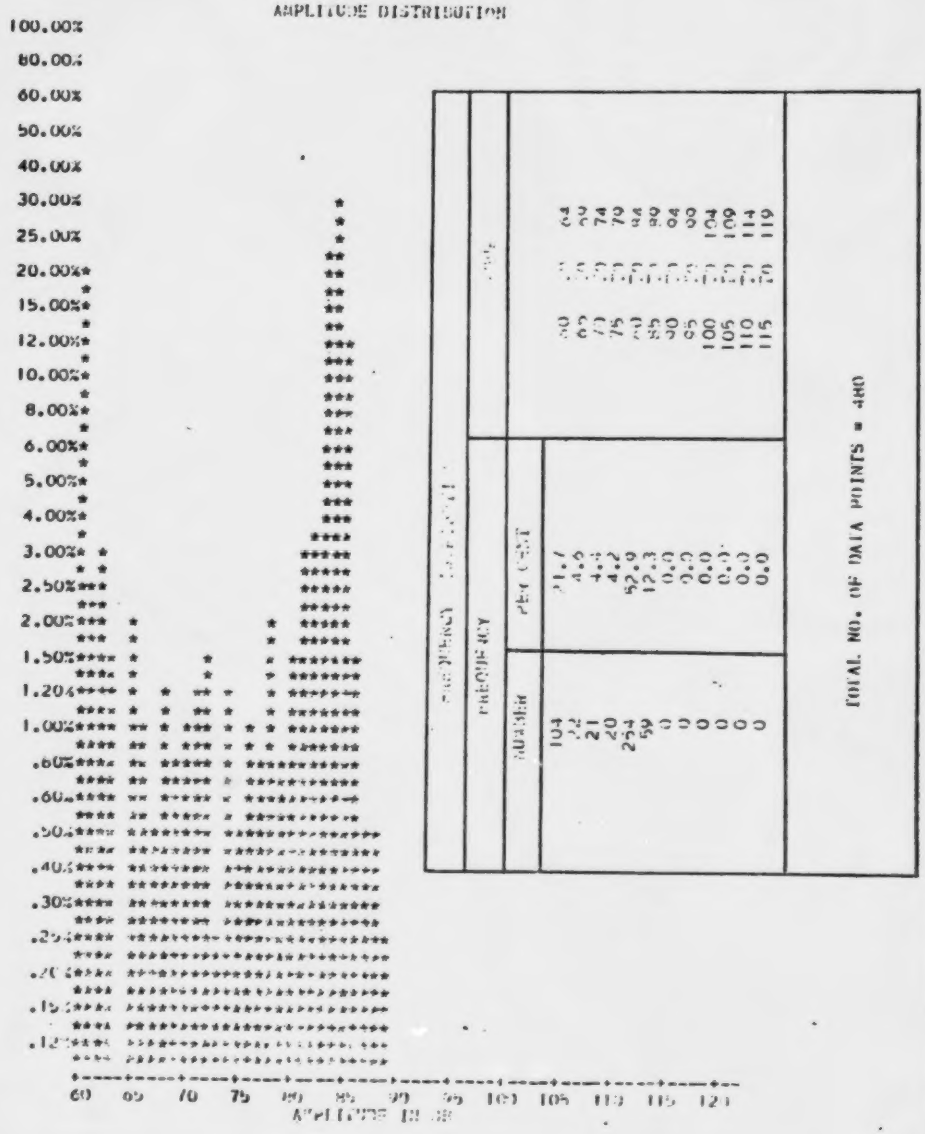

    DATA LOGGED :18 JUNE 1979              DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MILL-
  SERIAL NUMBER : 1216                          JOB CODE : 176
       BASELINE : 60 DB                        USER CODE : 0952
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                 STANDBY TIME =   0:48:31

            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME          LOSHA                      DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1      62.2      62.2             .267        .27
    2      80.6      76.2            3.416       3.68
    3      81.3      78.3            3.764       7.44
    4      83.9      80.2            5.35[illegible]      12.80
    5      84.3      81.2            5.7[illegible]       18.50
    6      77.6      80.7            2.23[illegible]      20.73
    7      81.7      81.2            5.22[illegible]      25.96
    8      80.2      81.1            3.211      29.17
 MIN. COMP. =  60 DB              MAX. COMP. =  87 DB
 ARITHMETIC MEAN =  77 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 DB
```

(42)

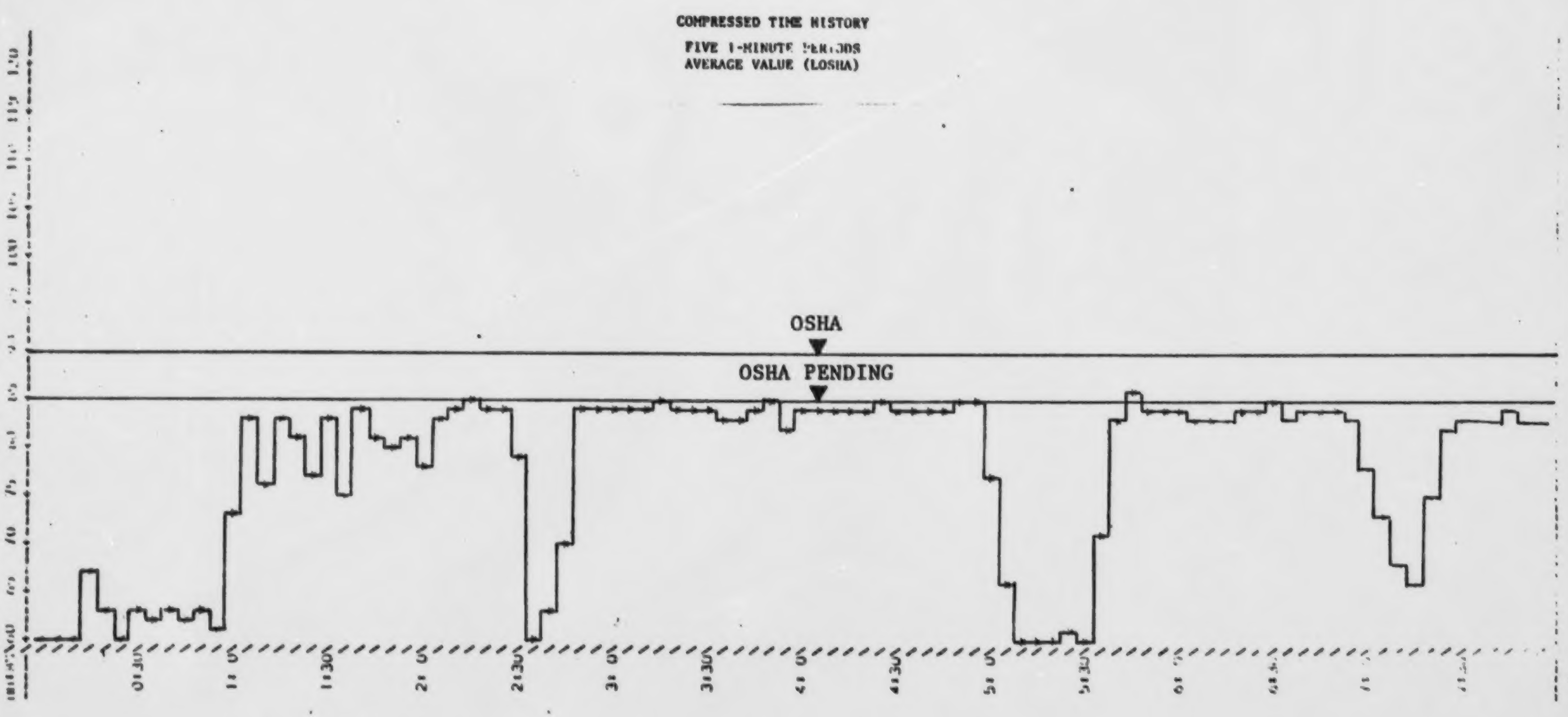


FREQUENCY [illegible]

FREQUENCY		[illegible]	
NUMBER	PER CENT		
104	21.7	60	64
22	4.6	65	69
21	4.4	70	74
20	4.2	75	79
254	52.9	80	84
59	12.3	85	89
0	0.0	90	94
0	0.0	95	99
0	0.0	100	104
0	0.0	105	109
0	0.0	110	114
0	0.0	115	119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

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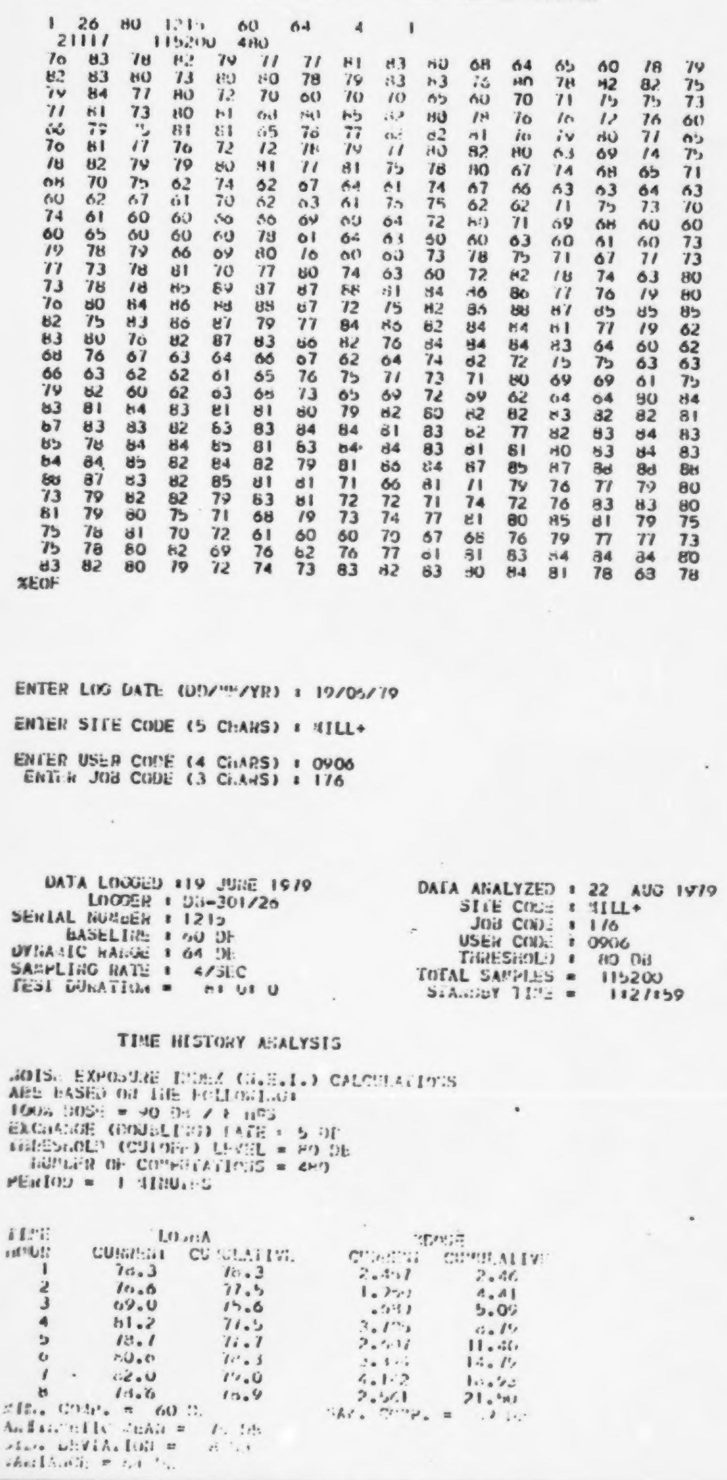


```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

   1  26  80  1215    60    64     4     1
  21117     115200  480
  76  83  78  82  79  77  77  81  83  80  68  64  65  60  78  79
  82  83  80  73  80  80  78  79  83  83  76  80  78  82  82  75
  79  84  77  80  72  70  60  70  70  65  60  70  71  75  75  73
  77  81  73  80  81  60  80  65  62  80  78  76  76  72  76  60
  66  79  75  81  81  65  76  77  62  82  81  70  79  80  77  65
  76  81  77  76  72  72  78  79  77  80  82  80  63  69  74  75
  78  82  79  79  80  81  77  81  75  78  80  67  74  68  65  71
  68  70  75  62  74  62  67  64  61  74  67  66  63  63  64  63
  60  62  67  61  70  62  63  61  75  75  62  62  71  75  73  70
  74  61  60  60  56  56  69  60  64  72  80  71  69  68  60  60
  60  65  60  60  60  78  61  64  63  50  60  63  60  61  60  73
  79  78  79  66  69  80  76  60  60  73  78  75  71  67  77  73
  77  73  78  81  70  77  80  74  63  60  72  82  78  74  63  80
  73  78  78  85  89  87  87  88  81  84  86  86  77  76  79  80
  76  80  84  86  88  88  87  72  75  82  85  88  87  85  85  85
  82  75  83  86  87  79  77  84  86  82  84  84  81  77  79  62
  83  80  76  82  87  83  86  82  76  84  84  84  83  64  60  62
  68  76  67  63  64  66  67  62  64  74  82  72  75  75  63  63
  66  63  62  62  61  65  76  75  77  73  71  80  69  69  61  75
  79  82  60  62  63  65  73  65  69  72  59  62  64  64  80  84
  83  81  84  83  81  81  80  79  82  80  82  82  83  82  82  81
  67  83  83  82  63  83  84  84  81  83  62  77  82  83  84  83
  85  78  84  84  85  81  63  64  84  83  81  81  80  83  84  83
  64  84  85  82  84  82  79  81  66  84  87  85  87  88  88  88
  88  87  83  82  85  81  81  71  66  81  71  79  76  77  79  80
  73  79  82  82  79  63  81  72  72  71  74  72  76  83  83  80
  81  79  80  75  71  68  79  73  74  77  81  80  85  81  79  75
  75  78  81  70  72  61  60  60  70  67  68  76  79  77  77  73
  75  78  80  82  69  76  62  76  77  61  81  83  84  84  84  80
  83  82  80  79  72  74  73  83  82  83  80  84  81  78  63  78
%EOF


ENTER LOG DATE (DD/MM/YR) : 19/06/79

ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0906
 ENTER JOB CODE (3 CHARS) : 176



     DATA LOGGED :19 JUNE 1979                  DATA ANALYZED : 22  AUG 1979
          LOGGER : DB-301/26                        SITE CODE : MILL+
   SERIAL NUMBER : 1215                              JOB CODE : 176
        BASELINE : 60 DB                            USER CODE : 0906
   DYNAMIC RANGE : 64 DB                            THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  115200
   TEST DURATION =    8: 0: 0                    STANDBY TIME =   1:27:59

              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           LOSHA                          DOSE
HOUR    CURRENT  CUMULATIVE           CURRENT   CUMULATIVE
   1      78.3       78.3              2.457       2.46
   2      76.6       77.5              1.95[illegible]       4.41
   3      69.0       75.6               .68[illegible]       5.09
   4      81.2       77.5              3.7[illegible]       8.79
   5      78.7       77.7              2.6[illegible]      11.46
   6      80.6       78.3              3.3[illegible]      14.79
   7  .   82.0       79.0              4.1[illegible]2      18.92
   8      78.8       78.9              2.561      21.50
MIN. COMP. =  60 DB                  MAX. COMP. =  [illegible]
ARITHMETIC MEAN =  7[illegible] DB
STD. DEVIATION =  [illegible]
VARIANCE = [illegible]
```

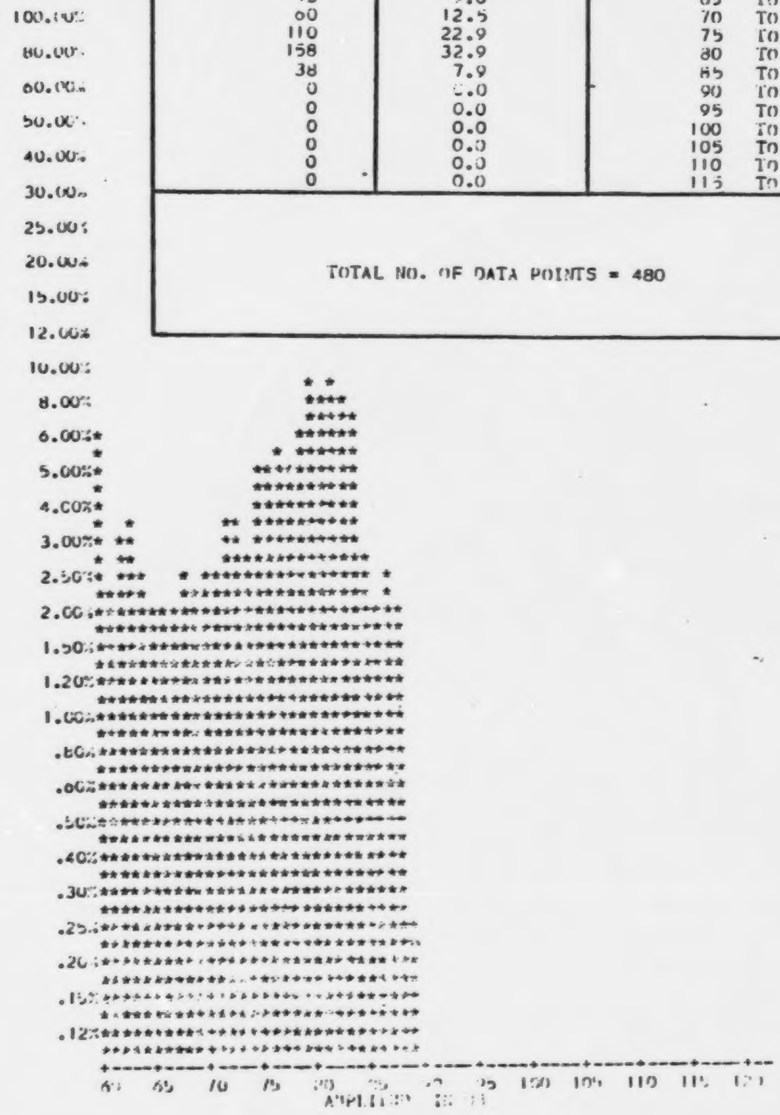
Labourer

AMPLITUDE DISTRIBUTION

(43)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
71	14.8	60 TO 64
43	9.0	65 TO 69
60	12.5	70 TO 74
110	22.9	75 TO 79
158	32.9	80 TO 84
38	7.9	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

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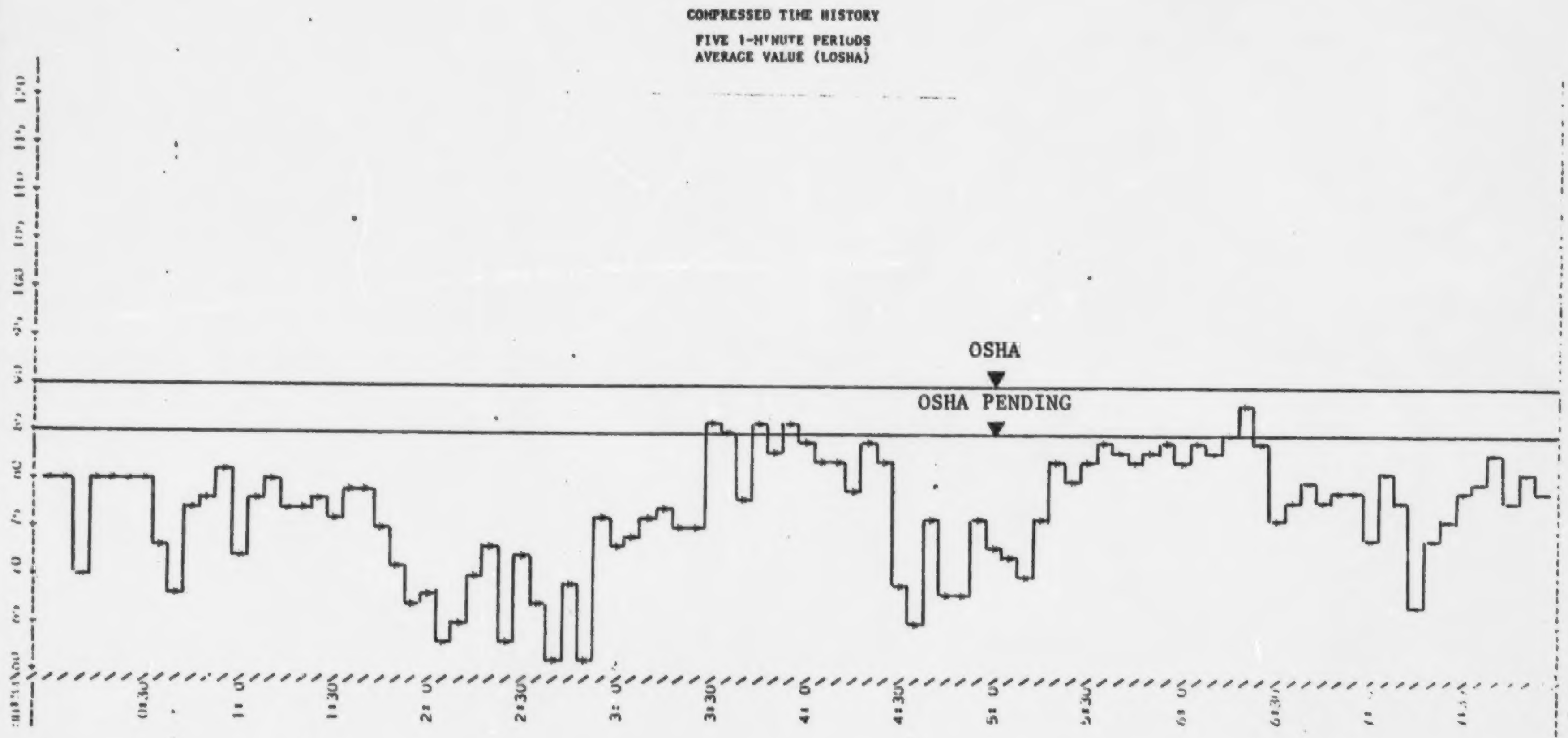
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30

(44)

Labourer

```
PLACE TAPE IN READER [illegible] TYPE A [illegible] AND A [illegible]
 1  26  60  1214   60   64    4     1
  23605     115200  4 60
 78  76  80  83  81  78  83  76  [illegible]  83  73  66  90  81  84  90
 [illegible]  [illegible]  [illegible]  84  81  81  86  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  73  71  [illegible]  [illegible]
 84  69  68  78  67  60  60  67  [illegible]  63  59  81  61  [illegible]  61  77
 69  60  60  60  60  60  60  76  67  90  79  70  60  60  60  60
 60  60  60  60  60  69  65  71- 69  61  61  64  64  63  60  62
 60  60  60  60  62  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  61  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  62  60  60  60  60  60  60  60  62
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  63  61  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60. 60  60  62  81  62  85  84  81  73  79  64  64
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  62  82
 83  77  68  60  62  60  84  87  79  77  76  84  64  85  85  68
 70  66  63  60  62  60  60  60  62  72  70  67  60  60  60  68
 60  60  66  64  61  67  72  79  79  64  64  67  77  79  80  75
 78  77  76  78  72  77  78  76  77  78  77  80  79  78  81  78
 71  66  68  75  76  74  70  61  74  74  76  72  71  74  73  70
 70  68  71  73  60  62  76  82  82  84  86  87  85  82  82  81
 78  80  80  83  81  83  62  65  61  63  63  80  62  80  65  80
 82  82  84  85  85  85  84  79  79  70  68  83  79  83  85  84
 85  80  81  81  82  81  79  84  82  88  85  86  86  86  86  86
 86  86  86  86  85  86  86  86  86  86  86  86  86  87  86  85
 78  74  77  74  84  80  81  75  83  79  77  76  71  77  68  74
 79  82  86  78  81  81  77  70  70  72  79  68  77  81  80  85
 80  82  77  74  78  81  74  69  71  60  64  68  68  65  77  80
 74  78  73  70  79  80  62  72  70  80  81  74  80  82  82  84
 84  85  78  82  83  82  78  78  74  72  82  85  84  83  82  83
%EOF



ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0950
 ENTER JOB CODE (3 CHARS) : 176


   DATA LOGGED :19 JUNE 1979            DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MILL+
 SERIAL NUMBER : 1214                           JOB CODE : 176
       BASELINE : 60 DB                        USER CODE : 0950
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                  STANDBY TIME =   1:38:21


            TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 60 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES


 TIME           LOSHA                      %DOSE
 HOUR    CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1      63.8       83.3            5.275      5.28
    2      61.4       79.1             .236      5.51
    3      60.1       76.4             .199      5.71
    4      68.4       75.1             .622      6.34
    5      75.7       76.2            1.719      8.06
    6      79.0       76.0            2.711     10.77
    7      83.0       77.5            4.744     15.52
    8      79.0       77.7            2.714     18.23
 MIN. COMP. =  60 DB              MAX. COMP. =  93 DB
 ARITHMETIC MEAN =  71 DB
 STD. DEVIATION =  10 DB
 VARIANCE =100 D.
```

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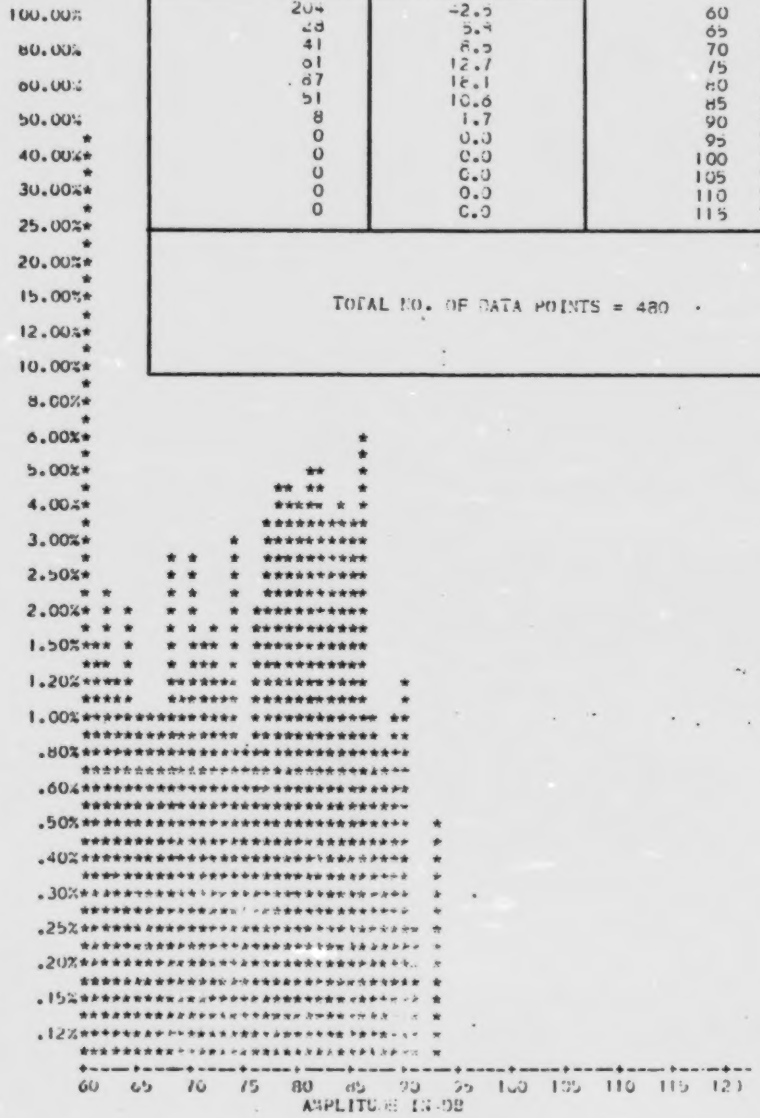
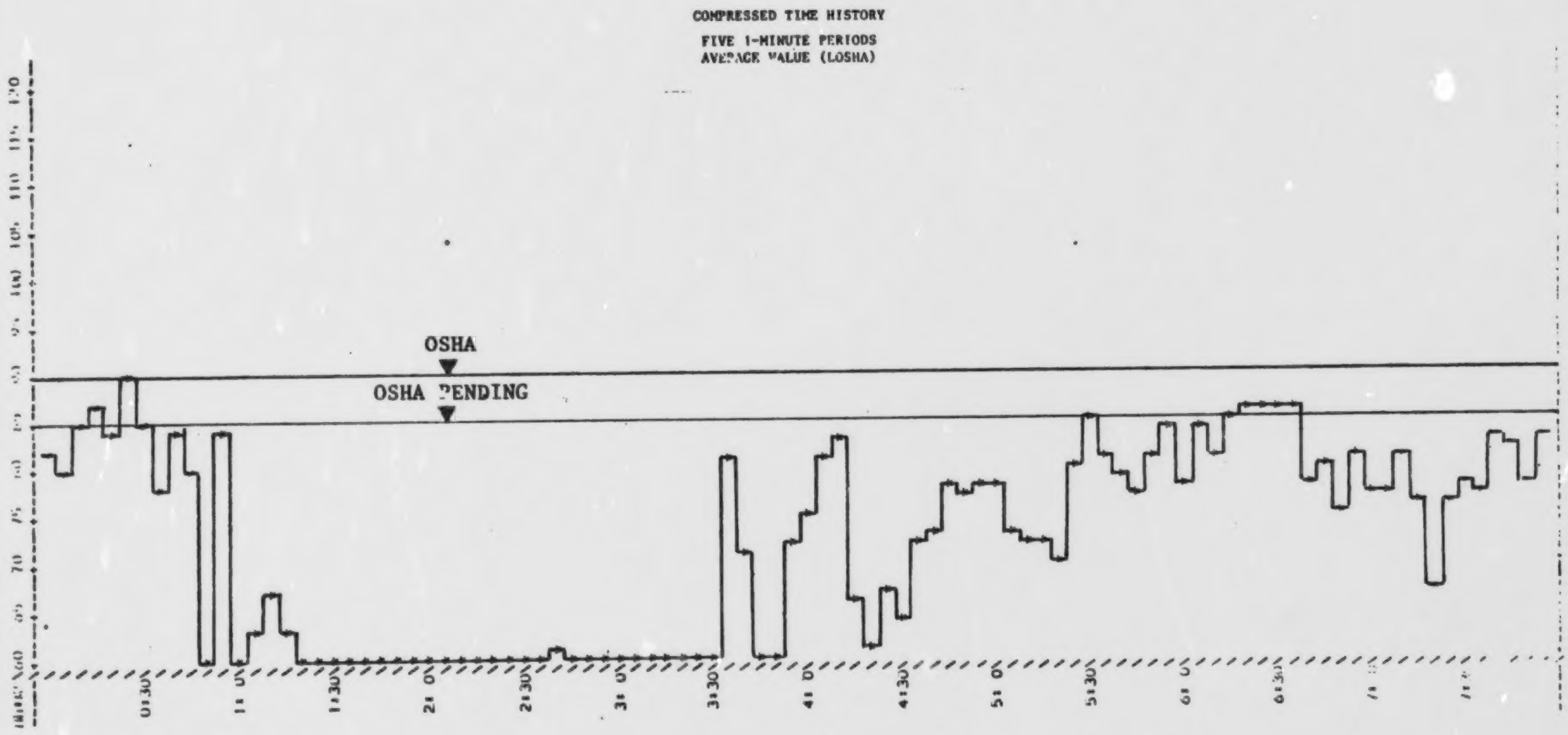
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
204	42.5	60 TO 64
28	5.8	65 TO 69
41	8.5	70 TO 74
61	12.7	75 TO 79
87	18.1	80 TO 84
51	10.6	85 TO 89
8	1.7	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30

㊹

(45)

Labourer

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]
  1  20  80  1216    60    64     4     1
   10337      115200   4.00
   78  69  83  67  60  75  65  67  71  74  66  71  79  80  81  80
   71  63  71  70  67  76  79  80  79  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  79  75
   72  84  79  77  70  72  73  79  76  62  74  63  68  79  77  79
   59  79  69  73  79  75  80  78  78  81  82  75  77  77  68  76
   65  62  63  65  63  77  84  83  70  60  87  86  76  82  82  84
   85  80  77  86  77  68  74  79  72  74  76  74  71  70  64  66
   65  67  62  71  65  68  68  67  61  63  60  60  60  60  75  82
   78  72  75  60  72  72  66  72  67  61  60  60  60  60  67  75
   67  66  61  69  73  71  71  70  70  72  75  73  68  76  68  62
   65  60  60  60  65  67  61  70  82  75  63  60  61  60  60  62
   64  60  60  60  60  60  63  60  60  60  61  60  60  60  61  61
   61  73  62  61  65  74  75  79  75  75  71  61  60  60  60  61
   62  62  64  75  72  85  86  80  73  75  71  78  78  79  80  69
   79  67  70  68  73  81  68  77  73  75  74  73  77  69  66  79
   69  79  79  81  71  74  80  79  81  73  84  83  85  87  86  83
   81  86  83  83  84  83  83  83  83  83  83  83  83  84  84  82
   82  80  78  82  80  82  84  83  85  82  83  83  83  83  83  83
   83  84  82  82  87  69  78  78  77  71  61  69  60  61  62  60
   65  62  60  61  62  62  68  70  62  67  68  72  68  74  76  76
   71  78  76  78  77  75  76 , 72  66  72  80  74  75  69  77  67
   84  82  85  84  83  83  83  82  83  83  83  82  84  84  81  84
   85  83  83  84  84  84  84  84  84  84  83  81  83  86  74  67
   78  80  69  79  76  83  84  83  83  83  83  83  83  83  83  84
   83  80  84  76  80  74  68  84  82  82  82  84  83  82  83  83
   79  81  76  79  70  70  72  68  70  75  79  83  73  78  65  67
   82  85  77  74  72  79  84  78  76  65  68  69  64  61  68  66
   71  67  73  79  74  80  79  79  82  78  69  80  62  83  84  71
   74  76  75  74  67  76  75  76  80  82  81  79  71  67  60  80
   77  63  60  60  61  62  86  86  86  86  84  77  79  83  84  84
   84  83  83  83  84  84  83  83  83  83  84  83  84  83  84  84
%EOF


ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0952
 ENTER JOB CODE (3 CHARS) : 176


   DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : MILL+
 SERIAL NUMBER : 1216                            JOB CODE : 176
      BASELINE : 60 DB                          USER CODE : 0952
 DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =   1: 8: 4

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                         %DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1        77.2      77.2              2.107       2.11
  2        76.1      76.6              1.812       3.92
  3        67.3      74.6               .533       4.46
  4        77.3      75.4              2.140       6.60
  5        80.1      76.6              3.179       9.78
  6        80.8      77.5              3.502      13.28
  7        79.1      77.8              2.749      16.02
  8        80.5      78.2              3.335      19.36
MIN. COMP. =  60 DB                  MAX. COMP. =  87 DB
ARITHMETIC MEAN =  74 DB
STD. DEVIATION =   4 DB
VARIANCE = 64 DB
```

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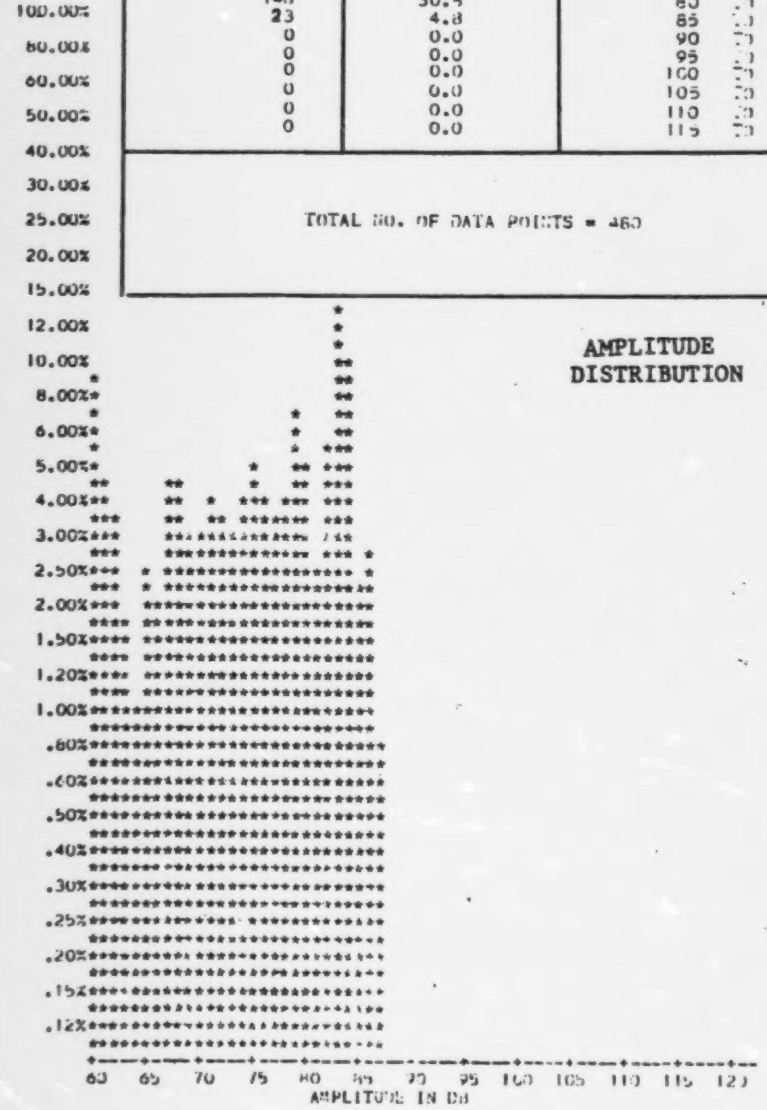
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
79	16.5	60 TO 64
65	13.5	65 TO 69
70	14.6	70 TO 74
95	19.8	75 TO 79
148	30.8	80 TO 84
23	4.8	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



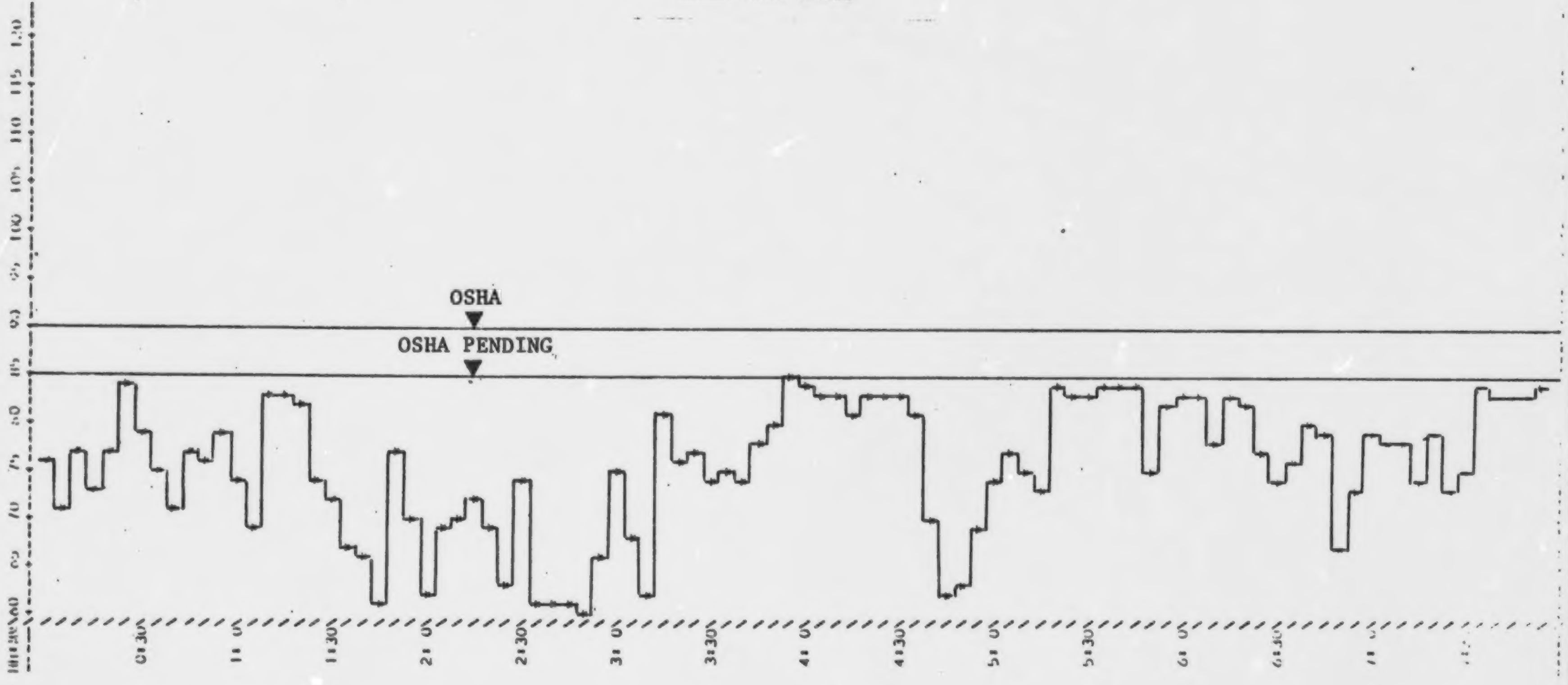
AMPLITUDE DISTRIBUTION

Number of computations = 480

㊺

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(46)

Labourer

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26   90  1226   60   64     4    1
  23268     109941   458
  77  76  80  75  68  64  82  76  61  69  80  60  61  63  69  61
  67  62  64  69  62  65  77  71  63  61  64  61  60  61  60  65
  71  69  72  71  76  63  66  71  73  58  83  76  62  83  77  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  79  75  77  78  76  75  82  82  79
  68  74  74  73  74  75  75  69  79  79  72  67  60  74  77  74
  72  72  72  75  74  61  68  60  60  62  68  67  65  72  76  78
  61  83  82  82  82  76  74  75  71  73  76  66  68  60  65  73
  66  61  62  71  62  62  72  60  62  76  70  70  78  71  68  72
  67  73  78  61  70  74  67  76  79  85  82  76  78  71  77  60
  61  70  60  65  79  80  80  83  82  81  78  85  84  83  83  82
  83  80  79  83  84  82  80  76  79  69  67  60  60  61  60  60
  60  60  60  75  65  60  60  60  60  60  60  63  60  62  67  65
  60  62  63  60  63  61  68  72  71  68  60  60  78  84  85  79
  77  78  78  78  79  85  78  72  76  74  82  82  75  73  60  60
  64  62  60  60  60  60  60  60  66  60  60  63  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  76  60  62  76
  70  62  66  64  63  70  63  60  63  62  71  60  70  80  79  80
  78  78  79  83  81  79  81  83 '80  77  80  83  84  81  76  83
  84  83  78  83  82  81  82  81  72  71  64  60  68  62  60  60
  73  79  64  77  67  60  73  76  77  77  60  79  80  79  61  60
  63  75  72  62  74  73  73  60  63  63  69  70  80  73  67  79
  82  84  84  83  83  81  78  75  81  77  73  74  74  63  71  66
  65  69  69  68  63  63  82  71  73  65  75  85  84  81  71  72
  78  84  87  87  77  74  83  82  81  81  81  81  81  81  81  81
  81  81  81  80  71  66  60  69  63  70  65  74  78  82  80  80
  79  80  80  81  80  81  80  80  81  81  78  79  78  78  75  63
  71  61  73  76  74  78  75  65  63  67  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : WILLC

ENTER USER CODE (4 CHARS) : 0906
 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED :21 JUNE 1979             DATA ANALYZED : 24  AUG 1979
        LOGGER : DS-301/26                   SITE CODE : WILLC
 SERIAL NUMBER : 1226                         JOB CODE : 176
      BASELINE : 60 DB                       USER CODE : 0908
 DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  109941
 TEST DURATION =    7:38: 5               STANDBY TIME =    1:36:57


          TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 458
 PERIOD =  1 MINUTES


 TIME            LOSHA                       %DOSE
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
    1       71.7       71.7             .901       .90
    2       71.5       71.6             .757      1.65
    3       74.2       72.6            1.[illegible]      3.33
    4       76.2       73.7            1.849      5.19
    5       70.6       73.1             .853      6.04
    6       77.5       74.1            2.200      8.24
    7       78.9       75.0            2.672     10.91
    8       76.5       75.1            1.21[illegible]     12.13
 MIN. COMP. =  60 DB               MAX. COMP. =  87 DB
 ARITHMETIC MEAN =  70 DB
 STD. DEVIATION =   8 DB
 VARIANCE = 64 DB
```

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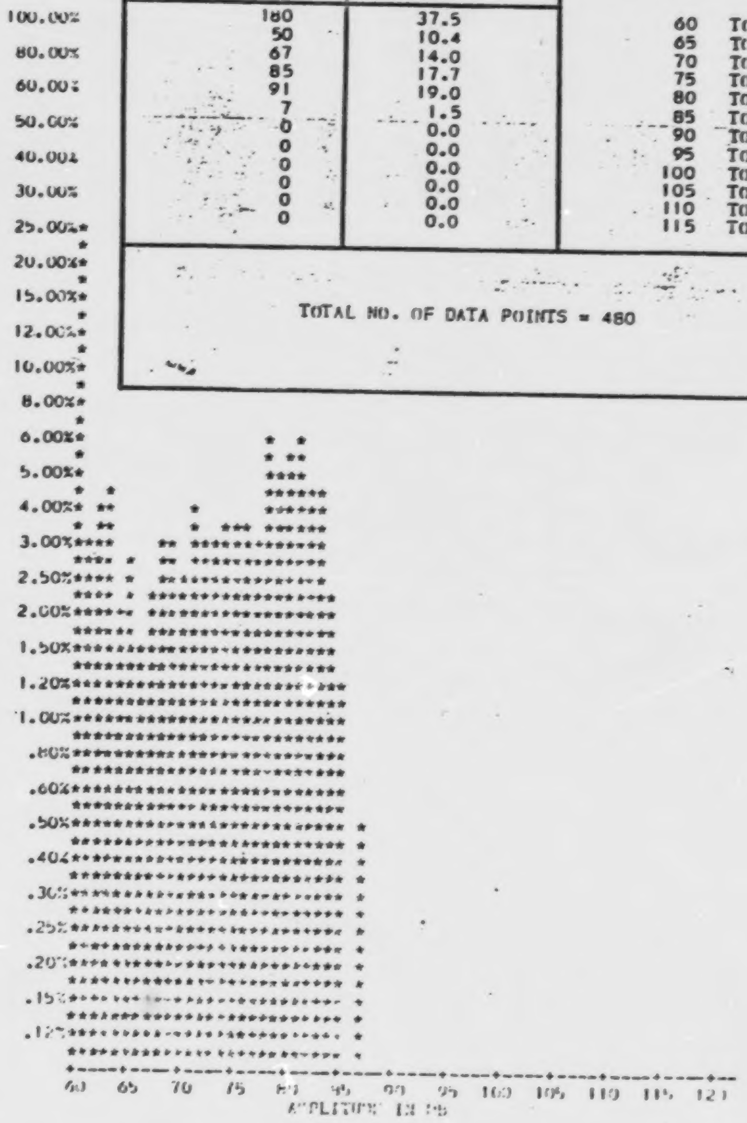
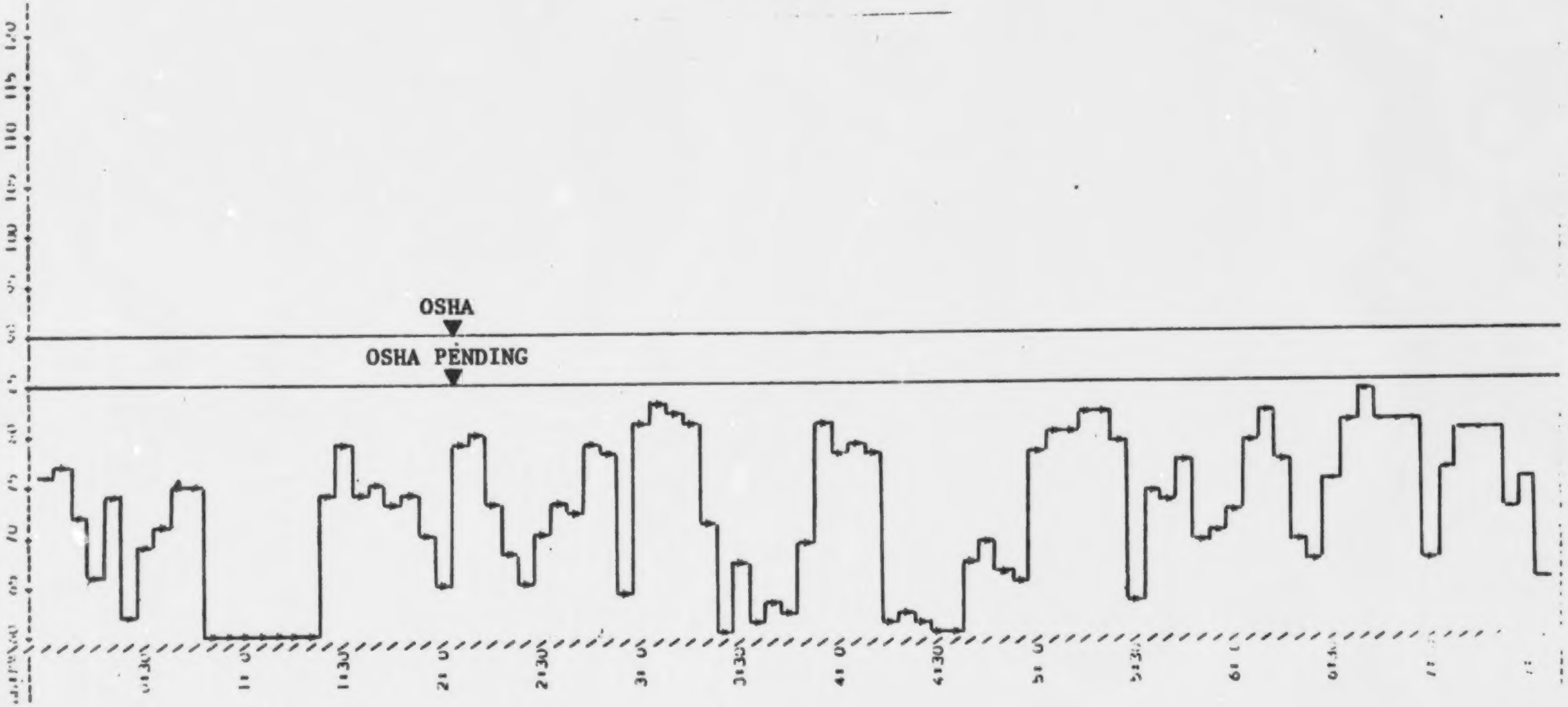
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
180	37.5	60 TO 64
50	10.4	65 TO 69
67	14.0	70 TO 74
85	17.7	75 TO 79
91	19.0	80 TO 84
7	1.5	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		

Number of computations = 458

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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(47)

Labourer

```
[illegible]

  1  .6  [illegible]  1225  [illegible]  64   4   1
  22?10   1070[illegible]
  72  65  64  61  61  60  60  62  [illegible]  [illegible]  [illegible]  64  71  [illegible]  74  74
  66  70  83  80  [illegible]  77  72  81  77  [illegible]  81  81  [illegible]  [illegible]  80  86
  66  63  60  76  [illegible]  67  78  66  73  [illegible]  [illegible]  71  [illegible]  [illegible]  77  [illegible]
  73  78  [illegible]  76  73  80  76  72  73  76  71  74  73  81  85  81
  63  63  60  72  73  70  79  59  81  75  [illegible]  79  79  [illegible]  80  74
  67  70  67  74  71  77  75  79  [illegible]  81  77  85  [illegible]  72  84  83
  70  77  77  73  [illegible]  80  76  80  72  71  59  60  [illegible]  61  63  70
  69  67  67  72  73  58  78  78  77  71  63  78  75  77  79  77
  76  79  77  75  74  [illegible]  68  73  77  54  [illegible]  60  [illegible]  [illegible]  60  [illegible]
  74  80  69  64  73  79  79  81  80  77  74  79  80  63  63  61
  73  72  72  60  65  62  67  68  72  70  74  76  75  58  63  79
  75  79  67  77  74  [illegible]  86  89  86  [illegible]  85  84  [illegible]  85  85  85
  66  65  65  85  [illegible]  86  66  76  86  66  65  86  87  87  87  87
  86  85  85  77  82  85  76  86  85  84  79  80  86  85  84  86
  86  85  85  84  87  84  65  85  85  85  84  80  63  84  85  84
  80  79  78  82  86  86  81  86  83  80  81  81  60  80  81  81
  84  85  85  86  67  86  83  82  82  79  78  61  [illegible]  82  81  81
  65  87  67  87  84  82  84  79  81  82  65  85  [illegible]  84  85  85
  84  82  83  83  81  81  65  85  81  83  84  76  [illegible]  79  87  [illegible]
  69  69  69  88  82  88  68  84  73  61  63  60  67  63  62  60
  60  63  69  66  69  72  71  71  72  63  60  60  72  60  60  81
  61  72  63  60  61  60  73  78 · 62  71  77  79  73  76  82  77
  81  79  60  60  60  81  64  74  60  60  60  60  75  74  89  86
  80  79  60  60  60  60  60  60  60  82  80  60  60  60  60  80
  86  81  67  84  83  60  60  60  67  72  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  61  60  60  63  60  60  60  60
  60  60  60  76  74  60  60  60  60  60  60  60  60  60  81  77
  60  60  60  60  60  60  60  60  60  60  60  60  60  65  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF
```

```
ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL:
ENTER USER CODE (4 CHARS) : 0252
 ENTER JOB CODE (3 CHARS) : 176
```

```
   DATA LOGGED :22 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : D3-301/26                     SITE CODE : MILL:
 SERIAL NUMBER : 1226                           JOB CODE : 176
      BASELINE : 60 DB                         USER CODE : 0252
 DYNAMIC RANGE : 64 DB                         THRESHOLD : [illegible] DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  107056
 TEST DURATION =    7:26: 6                 STANDBY TIME =   2: 4:1[illegible]

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (EQUAL [illegible]) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 445
 PERIOD =  1 MINUTES

 TIME          LOSHA                      DOSE
 HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1       76.9      76.9           2.034      2.03
   2       75.0      77.5           2.377      4.41
   3       75.3      76.8           1.6[illegible]      6.0[illegible]
   4       84.8      72.4           6.117     12.16
   5       [illegible].2      [illegible].6           4.[illegible]     17.04
   6       75.9      [illegible].4           [illegible]     17.71
   7       [illegible]      [illegible].7           1.[illegible]     [illegible]
   8       66.0      77.1            .1[illegible]     21.14
 MIN. COMP. =  60 DB              MAX. COMP. =  92 DB
 ARITHMETIC MEAN =  7[illegible]
 [illegible]
 VARIANCE =[illegible]
```

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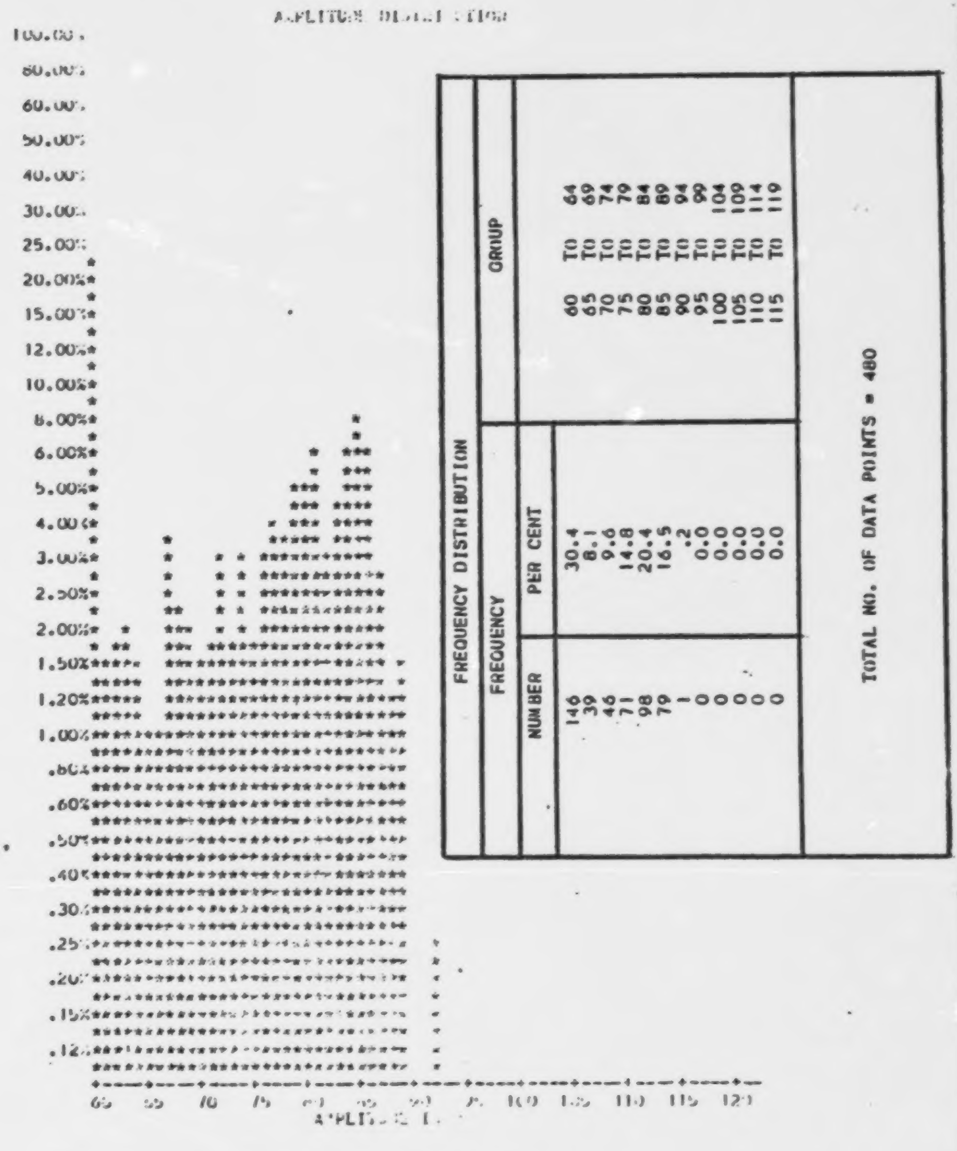
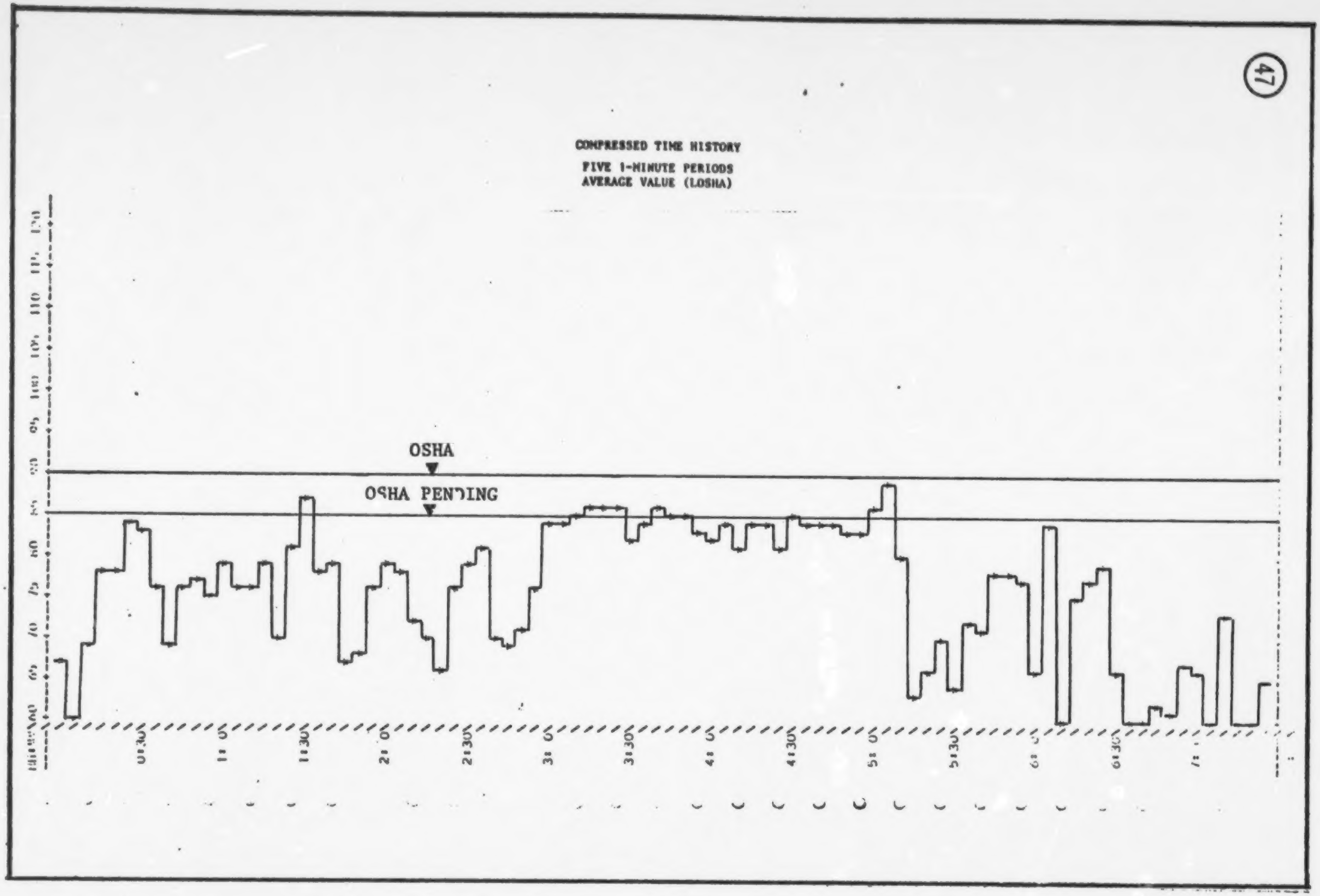


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
146	30.4	60 TO 64
39	8.1	65 TO 69
46	9.6	70 TO 74
71	14.8	75 TO 79
98	20.4	80 TO 84
79	16.5	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

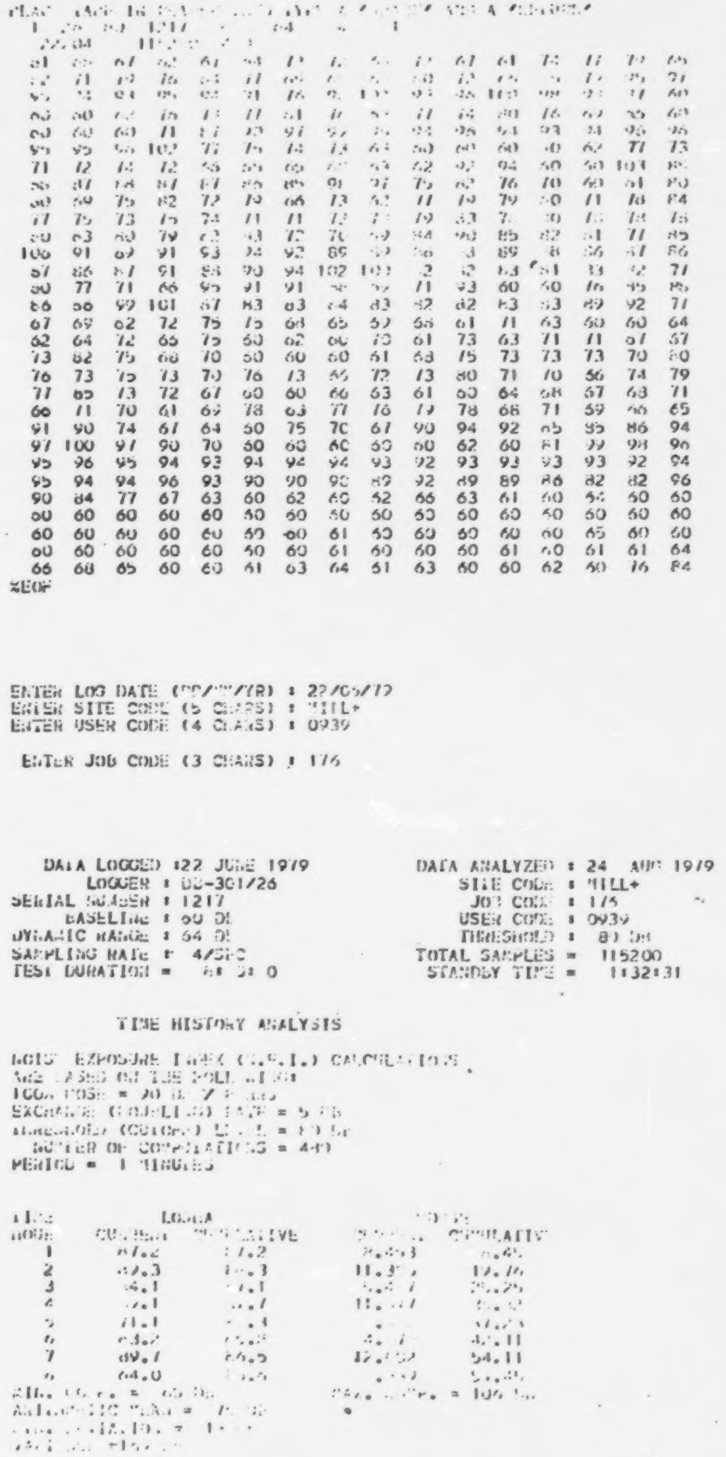
TOTAL NO. OF DATA POINTS = 480

Number of computations = 446


47
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
6:30
7:00

(48)

Labourer



```
[illegible]
 1 [illegible] 1217 [illegible] 64 [illegible] 1
 [illegible] 11[illegible]
 61 [illegible] 67  62  61 [illegible] [illegible] 72 [illegible] [illegible] 61  61  74  77  79  65
 [illegible] 71 [illegible] 76 [illegible] 77 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 71
 [illegible] [illegible] [illegible] [illegible] [illegible] 71  76 [illegible] [illegible] 93 [illegible] 103 [illegible] [illegible] 97  60
 63  60 [illegible] 75 [illegible] 77  61 [illegible] [illegible] 77 [illegible] 80  76 [illegible] 75  60
 60  60  60  71 [illegible] [illegible] 97 [illegible] [illegible] [illegible] 96  94  93 [illegible] 95  96
 95  95  95 102  77  75  74  73  63  60  60  60  60  62  71  73
 71  72  74  72 [illegible] [illegible] 69 [illegible] [illegible] 62 [illegible] 94  60  60 103 [illegible]
 [illegible] 87 [illegible] 87  67 [illegible] 85  91  97  75  62  76  70  60  61  80
 60  60  75  82  72  79  66  73 [illegible] 77  79  79  60  71  78  84
 77  75  73  75  74  71  71  72 [illegible] 79 [illegible] [illegible] 70 [illegible] 78  78
 80  63  60  79 [illegible] [illegible] 72  70 [illegible] 84  90  85  82  61  77  85
100  91  69  91  93  74  92  89 [illegible] [illegible] [illegible] 89 [illegible] [illegible] 87  86
 87  86  87  91  88  90  94 102 103 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 71
 80  77  71  66  95  91  91 [illegible] [illegible] 71  93  60  60  76 [illegible] [illegible]
 86  86  99 101  87  83  83  84  83  82  82  83  83  89  92  71
 67  69  62  72  75  75  68  65  57  65  61  71  63  60  60  64
 62  64  72  65  75  60  62  66  70  61  73  63  71  71  67  67
 73  82  75  68  70  60  60  60  61  68  75  73  73  73  70  80
 76  73  75  73  70  76  73  66  72  73  80  71  70  56  74  79
 77  65  73  72  67  60  60  66  63  61  60  64  68  67  68  71
 66  71  70  61  69  78  63  77  76  79  78  66  71  59  66  65
 91  90  74  67  64  60  75  70  67  90  94  92  85  95  86  94
 97 100  97  90  70  60  60  60  60  60  62  60  81  99  98  96
 95  96  95  94  93  94  94  94  93  92  93  93  93  93  92  94
 95  94  94  96  93  90  90  90  89  92  89  89  86  82  82  96
 90  84  77  67  63  60  62  60  62  66  63  61  60  64  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  61  60  60  60  60  60  65  60  60
 60  60  60  60  60  60  60  61  60  60  60  61  60  61  61  64
 66  68  65  60  60  61  63  64  61  63  60  60  62  60  76  84
%EOF




ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0939

 ENTER JOB CODE (3 CHARS) : 176




   DATA LOGGED :22 JUNE 1979               DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILL+
 SERIAL NUMBER : 1217                           JOB CODE : 176
      BASELINE : 60 DB                         USER CODE : 0939
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =  [illegible]                STANDBY TIME =   1:32:31

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                     DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
   1     87.2     87.2          [illegible]  [illegible]
   2     [illegible]  [illegible]  11.3[illegible]  19.76
   3     [illegible]  [illegible]  [illegible]  [illegible]
   4     [illegible]  [illegible]  11.[illegible]  [illegible]
   5     71.1     [illegible]   [illegible]  [illegible]
   6     [illegible]  [illegible]  [illegible]  4[illegible].11
   7     89.7     86.5          12.[illegible]  54.11
   8     64.0     [illegible]   [illegible]  [illegible]
[illegible] = [illegible]          [illegible] = 106 [illegible]
[illegible] = [illegible]
[illegible]
[illegible]
```

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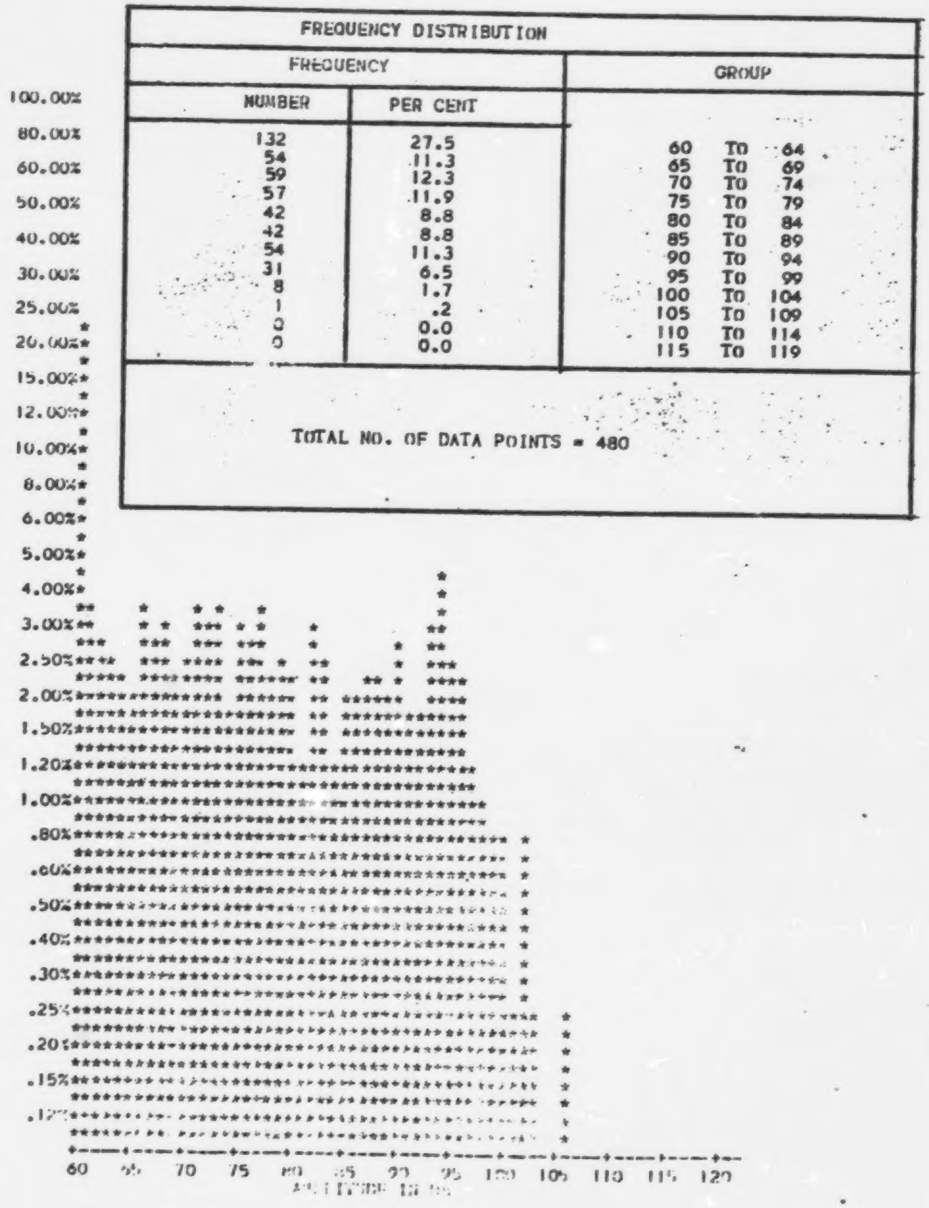
AMPLITUDE DISTRIBUTION



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
132	27.5	60 TO 64
54	11.3	65 TO 69
59	12.3	70 TO 74
57	11.9	75 TO 79
42	8.8	80 TO 84
42	8.8	85 TO 89
54	11.3	90 TO 94
31	6.5	95 TO 99
8	1.7	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		

Number of computations = 480

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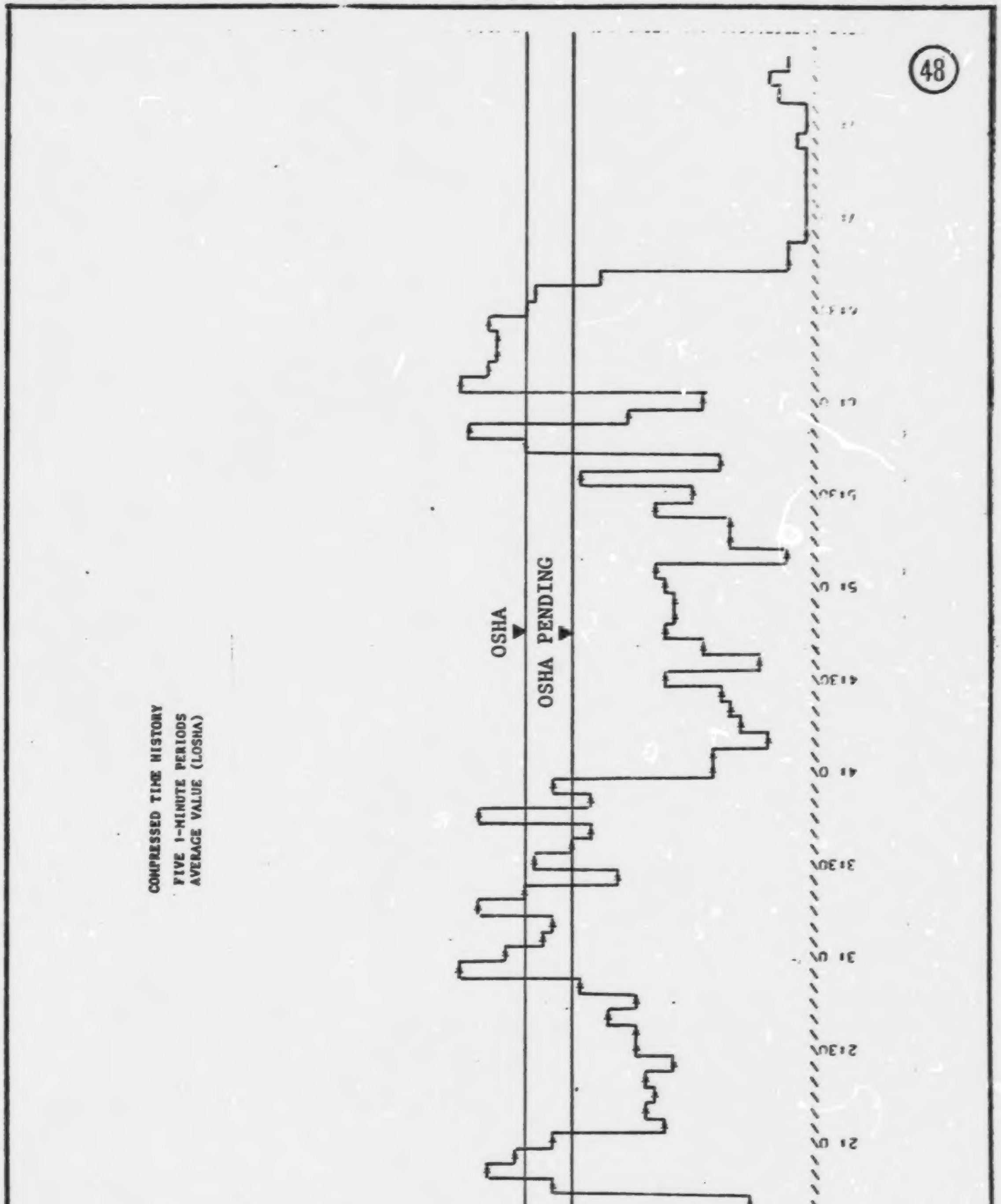

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0

(49)

Labourer

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

 1  26  80  1216   60   64    4    1
  21251     115200  480
 77  64  63  60  65  60  60  60  63  65  67  66  67  75  64  65
 73  62  63  81  75  72  72  73  81  81  81  76  81  80  86  87
 83  80  83  80  85  84  85  82  73  72  73  74  70  67  75  64
 70  71  72  80  81  80  77  84  76  74  74  81  79  76  79  63
 75  73  79  79  80  82  71  74  71  74  74  77  74  75  77  62
 77  62  72  61  61  63  67  66  75  71  74  69  79  85  82  76
 85  87  90  85  85  73  74  76  76  81  80  76  82  73  65  64
 70  67  64  60  69  65  70  72  79  81  75  79  83  81  64  86
 80  81  77  82  79  74  80  81  76  68  76  73  71  80  73  68
 62  60  60  62  70  75  81  69  73  70  79  63  81  80  63  78
 80  83  85  85  81  72  71  74  81  65  74  76  78  72  75  76
 75  76  72  71  78  79  82  73  84  81  80  76  76  79  78  83
 80  80  80  79  79  75  71  71  65  72  77  73  78  80  75  80
 81  81  84  88  88  86  86  77  84  85  87  90  88  89  89  83
 86  87  87  86  87  85  85  88  86  87  85  87  83  84  89  87
 78  86  86  86  86  86  80  84  85  87  87  86  87  86  81  81
 81  79  78  86  85  87  86  86  87  87  87  84  83  85  83  83
 87  86  86  85  86  90  87  84  86  84  84  84  86  86  87  87
 84  83  86  86  87  86  84  85  85  84  83  83  86  85  85  85
 82  89  82  88  88  89  89  91  88  90  89  92  85  76  67  66
 61  66  66  66  61  66  65  72  71  72  73  73  78  67  69  77
 81  82  79  77  78  79  78  74  81  70  71  74  72  66  79  80
 84  84  79  86  86  86  81  80  77  62  76  84  82  81  71  76
 80  80  82  81  82  80  84  85  85  83  87  85  87  84  84  84
 84  84  84  83  82  82  82  83  83  84  84  84  85  85  84  85
 84  84  85  85  85  84  84  84  84  84  84  84  84  86  89  85
 83  84  84  84  84  84  84  84  84  84  84  84  84  84  83  83
 83  83  84  72  69  67  71  74  71  75  70  67  69  69  77  82
 93  76  81  84  82  72  73  78  81  79  81  84  83  84  84  84
 83  83  83  84  84  83  83  83  83  83  82  82  84  82  82  80
#EOF


ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL:
ENTER USER CODE (4 CHARS) : 0961
 ENTER JOB CODE (3 CHARS) : 176


   DATA LOGGED :22 JUNE 1979             DATA ANALYZED : 24  AUG 1979
       LOGGER : DB-301/26                     SITE CODE : MILL:
SERIAL NUMBER : 1216                           JOB CODE : 176
     BASELINE : 60 DB                         USER CODE : 0951
DYNAMIC RANGE : 64 DB                         THRESHOLD : 60 DB
SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                  STANDBY TIME =   1:2: :32

         TIME HISTORY ANALYSIS

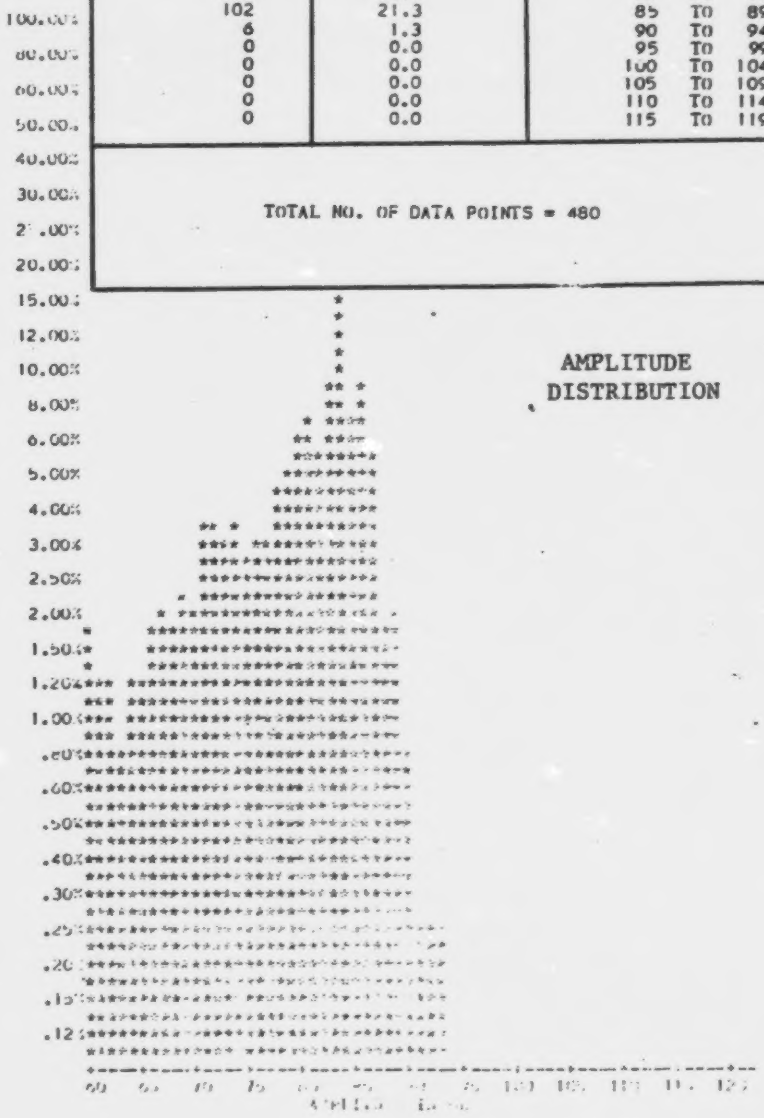
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING :
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 [illegible]

TIME           LOSHA                      DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT   CUMULATIVE
   1       76.1      76.1           2.402      2.40
   2       77.5      77.8           2.221      4.62
   3       77.7      77.5           [illegible]  [illegible]
   4       [illegible]  77.6        [illegible]  11.[illegible]
   5       85.3      81.2           6.465     18.35
   6       82.1      81.3           4.157     22.51
   7       [illegible]  81.7        [illegible]  [illegible]
   8       81.7      81.7           4.9[illegible]  31.46
MIN. CONT. = 60 DB              MAX. CONT. = [illegible]
[illegible]
[illegible]
[illegible]
```

㊾

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
25	5.2	60 TO 64
36	7.5	65 TO 69
64	13.3	70 TO 74
74	15.4	75 TO 79
173	36.0	80 TO 84
102	21.3	85 TO 89
6	1.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

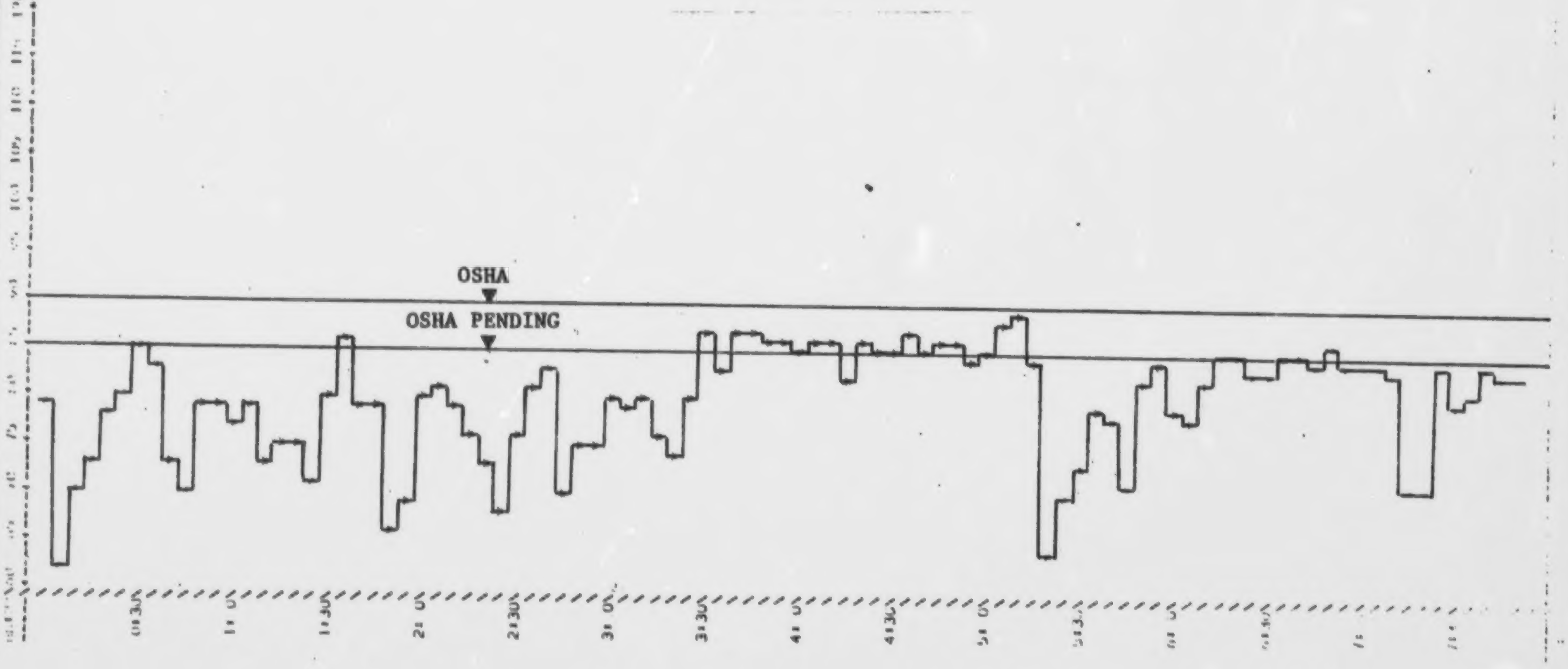


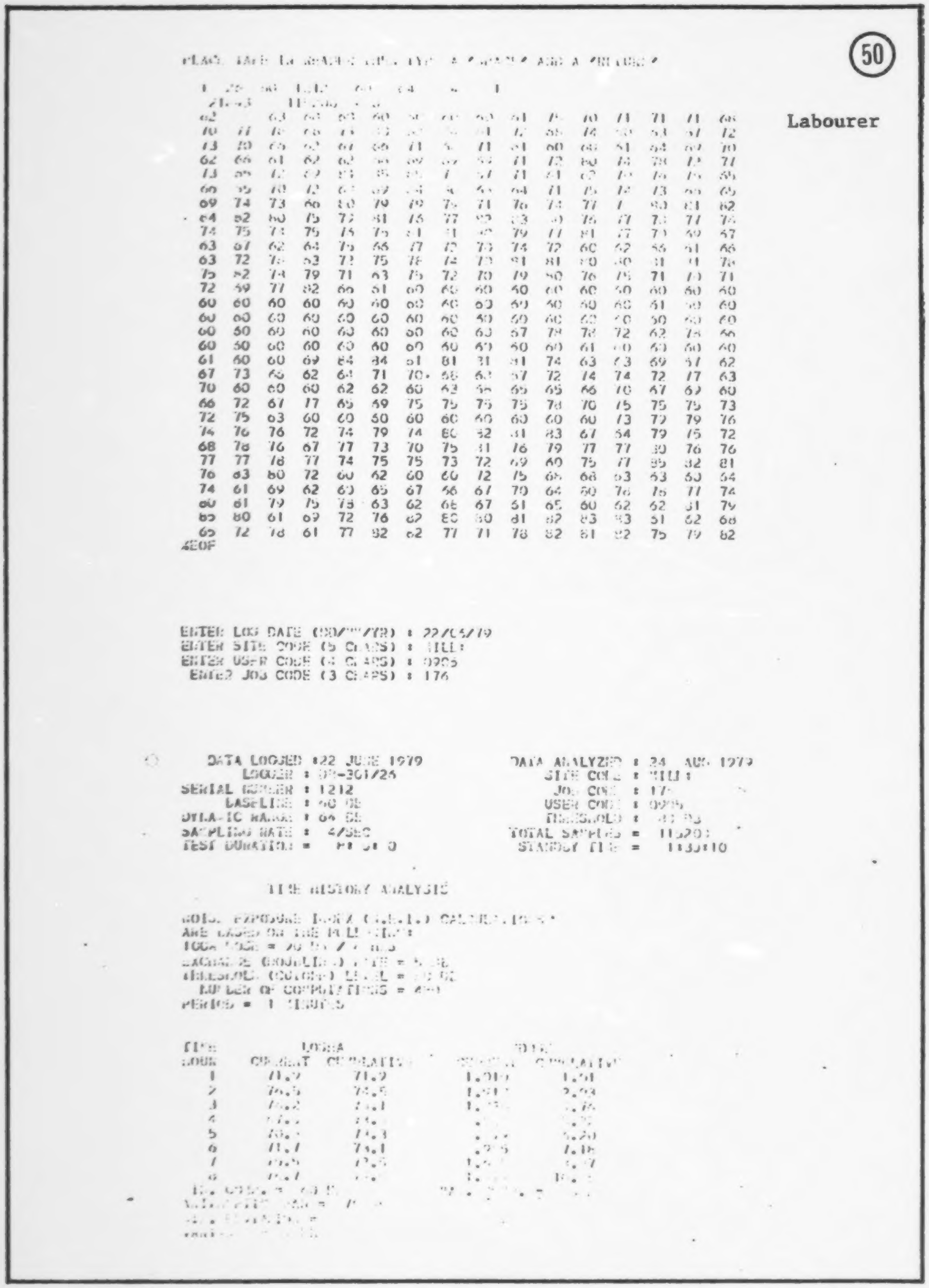
AMPLITUDE DISTRIBUTION

Number of computations = 480

㊾

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





(50)

Labourer

```
PLACE TAPE IN READER [illegible] TYPE A '[illegible]' AND A 'RETURN'

  1  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  1
  [illegible]  [illegible]
  62      63  63  63  60  [illegible]  [illegible]  63  61  75  70  71  71  71  68
  70  77  76  66  [illegible]  [illegible]  [illegible]  [illegible]  71  72  56  74  [illegible]  53  57  72
  73  70  65  62  67  66  71  [illegible]  71  61  60  60  81  64  67  70
  62  66  61  62  62  [illegible]  67  [illegible]  [illegible]  71  72  80  74  78  72  71
  73  [illegible]  72  69  [illegible]  85  [illegible]  7  57  71  61  62  [illegible]  76  75  65
  60  [illegible]  70  72  63  67  [illegible]  [illegible]  65  64  71  75  72  73  [illegible]  65
  69  74  73  60  80  79  79  75  71  76  74  77  7   80  81  82
  64  52  60  75  72  81  75  77  [illegible]  83  [illegible]  76  77  73  77  76
  74  75  73  75  75  75  81  81  [illegible]  79  77  81  77  73  69  57
  63  67  62  64  75  66  77  72  73  74  72  60  62  56  61  66
  63  72  78  53  72  75  78  72  73  81  81  80  80  81  81  78
  75  52  74  79  71  63  75  72  70  79  80  76  75  71  70  71
  72  59  77  82  60  51  60  60  60  50  60  60  50  60  60  60
  60  60  60  60  60  60  60  60  60  60  50  60  60  61  50  60
  60  60  60  60  60  60  60  60  50  60  60  62  60  50  60  60
  60  50  60  60  63  60  50  62  63  57  78  78  72  62  78  66
  60  50  60  60  60  60  60  60  60  50  60  61  60  60  60  60
  61  60  60  69  84  84  51  81  81  81  74  63  63  69  57  62
  67  73  65  62  64  71  70. 56  63  57  72  74  74  72  77  63
  70  60  60  60  62  62  60  63  56  65  65  66  70  67  67  60
  66  72  67  77  65  59  75  75  75  75  78  70  75  75  75  73
  72  75  63  60  60  50  60  60  60  60  60  60  73  72  79  76
  74  76  76  72  74  79  74  80  82  81  83  67  54  79  75  72
  68  78  76  67  77  73  70  75  81  76  79  77  77  80  76  76
  77  77  78  77  74  75  75  73  72  69  60  75  77  85  82  81
  76  63  60  72  60  62  60  60  72  75  65  68  63  63  60  54
  74  61  69  62  60  65  67  56  67  70  64  60  76  75  77  74
  60  61  79  75  73  63  62  65  67  51  65  60  62  62  81  79
  65  80  61  69  72  76  62  80  60  81  82  83  83  51  62  68
  65  72  78  61  77  82  62  77  71  78  82  81  82  75  79  62
#EOF



ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : HILL:
ENTER USER CODE (4 CHARS) : 0905
 ENTER JOB CODE (3 CHARS) : 176



    DATA LOGGED :22 JUNE 1979               DATA ANALYZED : 24  AUG 1979
         LOGGER : [illegible]-301/26                 SITE CODE : HILL:
  SERIAL NUMBER : 1212                            JOB CODE : 176
       BASELINE : 60 DB                          USER CODE : 0905
  DYNAMIC RANGE : 64 DB                          THRESHOLD : [illegible] DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  11520:
  TEST DURATION =   8: 0: 0                    STANDBY TIME =   1:33:10


          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible] DB
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1  HOURS

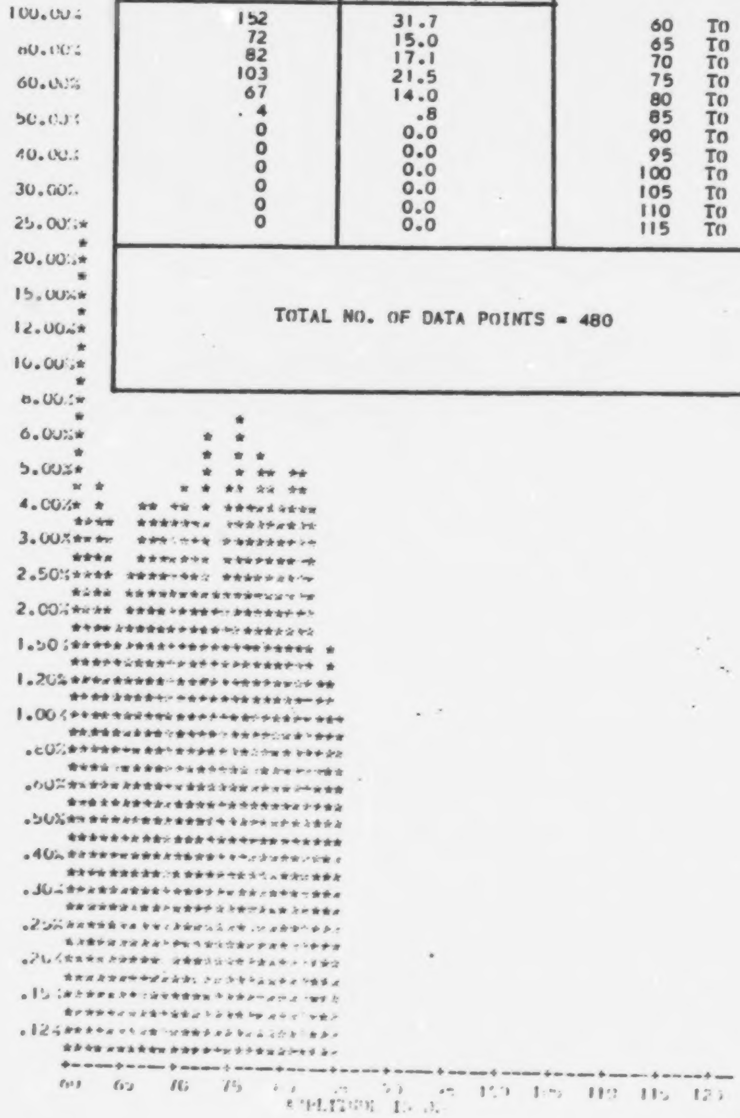
TIME          LOSHA                      NEI
HOUR    CURRENT  CUMULATIVE     CURRENT   CUMULATIVE
   1      71.9      71.9         1.010      1.01
   2      76.5      74.5         1.[illegible]      2.[illegible]
   3      76.2      7[illegible].1         1.[illegible]      [illegible].76
   4      [illegible]      7[illegible]        [illegible]      [illegible]
   5      70.[illegible]      7[illegible].3         [illegible]      [illegible].20
   6      71.7      74.1         .9[illegible]5      7.16
   7      [illegible]      7[illegible]         1.[illegible]      [illegible]
   8      7[illegible].7      [illegible]         1.[illegible]      1[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

(50)

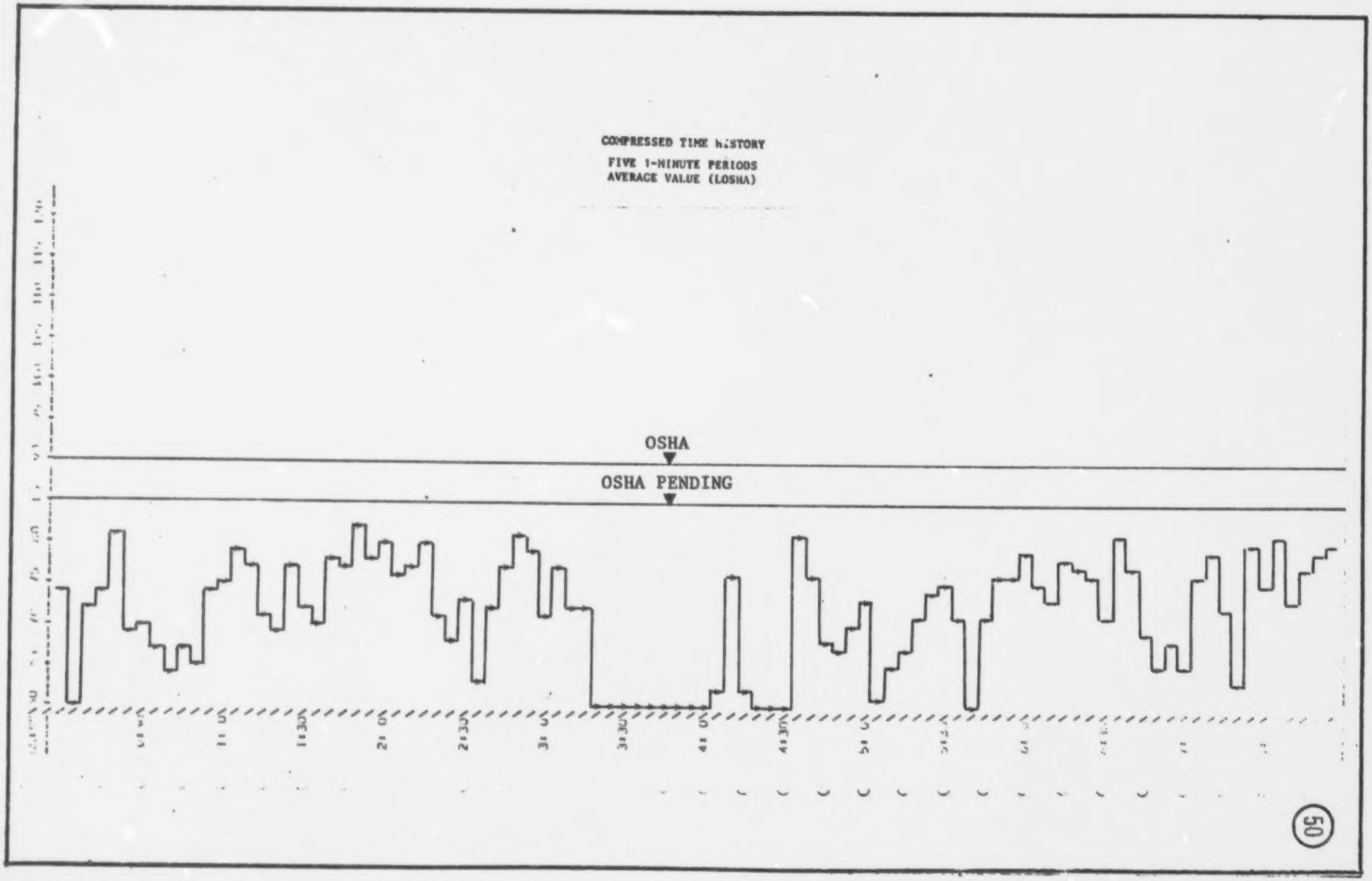
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
152	31.7	60 TO 64
72	15.0	65 TO 69
82	17.1	70 TO 74
103	21.5	75 TO 79
67	14.0	80 TO 84
4	.8	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

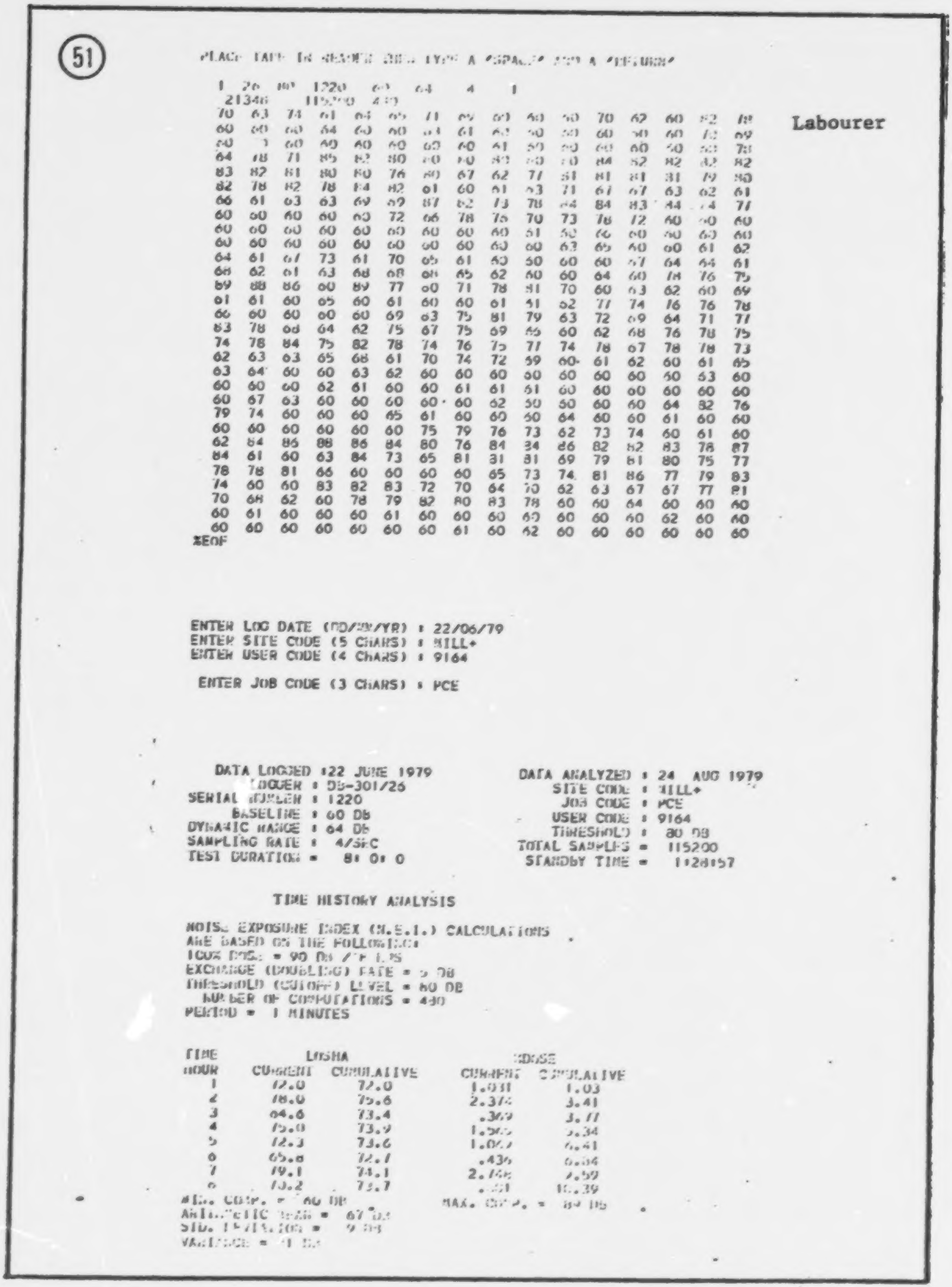
TOTAL NO. OF DATA POINTS = 480



Number of computations = 480



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(51)

Labourer

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

 1  26  80  1220   60   64    4    1
 21346      115200  480
70  63  74  61  64  65  71  69  60  60  60  70  62  60  82  78
60  60  60  64  60  60  61  61  62  60  60  60  60  60  72  69
60  [illegible]  60  60  60  60  60  60  61  60  60  60  60  60  60  78
64  78  71  85  82  80  60  60  80  60  60  84  82  82  82  82
83  82  81  80  80  76  80  67  62  77  81  81  81  31  79  80
82  78  82  78  84  82  61  60  61  63  71  67  67  63  62  61
66  61  63  63  69  69  87  82  73  78  84  84  83  84  74  77
60  60  60  60  60  72  66  78  75  70  73  78  72  60  60  60
60  60  60  60  60  60  60  60  60  61  62  66  60  60  63  60
60  60  60  60  60  60  60  60  60  60  63  65  60  60  61  62
64  61  67  73  61  70  65  61  60  60  60  60  67  64  64  61
68  62  61  63  68  68  68  65  62  60  60  64  60  78  76  75
69  88  86  60  89  77  60  71  78  81  70  60  63  62  60  69
61  61  60  65  60  61  60  60  61  61  62  77  74  76  76  78
66  60  60  60  60  69  63  75  81  79  63  72  69  64  71  77
83  78  68  64  62  75  67  75  69  65  60  62  68  76  78  75
74  78  84  75  82  78  74  76  75  77  74  78  67  78  78  73
62  63  63  65  68  61  70  74  72  59  60- 61  62  60  61  65
63  64  60  60  63  62  60  60  60  60  60  60  60  60  63  60
60  60  60  62  61  60  60  61  61  61  60  60  60  60  60  60
60  67  63  60  60  60  60  60  62  60  60  60  60  64  82  76
79  74  60  60  60  65  61  60  60  60  64  60  60  61  60  60
60  60  60  60  60  60  75  79  76  73  62  73  74  60  61  60
62  84  86  88  86  84  80  76  84  84  86  82  82  83  78  87
84  61  60  63  84  73  65  81  31  81  69  79  61  80  75  77
78  78  81  66  60  60  60  60  65  73  74  81  86  77  79  83
74  60  60  83  82  83  72  70  64  70  62  63  67  67  77  81
70  68  62  60  78  79  82  80  83  78  60  60  64  60  60  60
60  61  60  60  60  61  60  60  60  60  60  60  60  62  60  60
60  60  60  60  60  60  60  61  60  62  60  60  60  60  60  60
%EOF


ENTER LOG DATE (MD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 9164

 ENTER JOB CODE (3 CHARS) : PCE

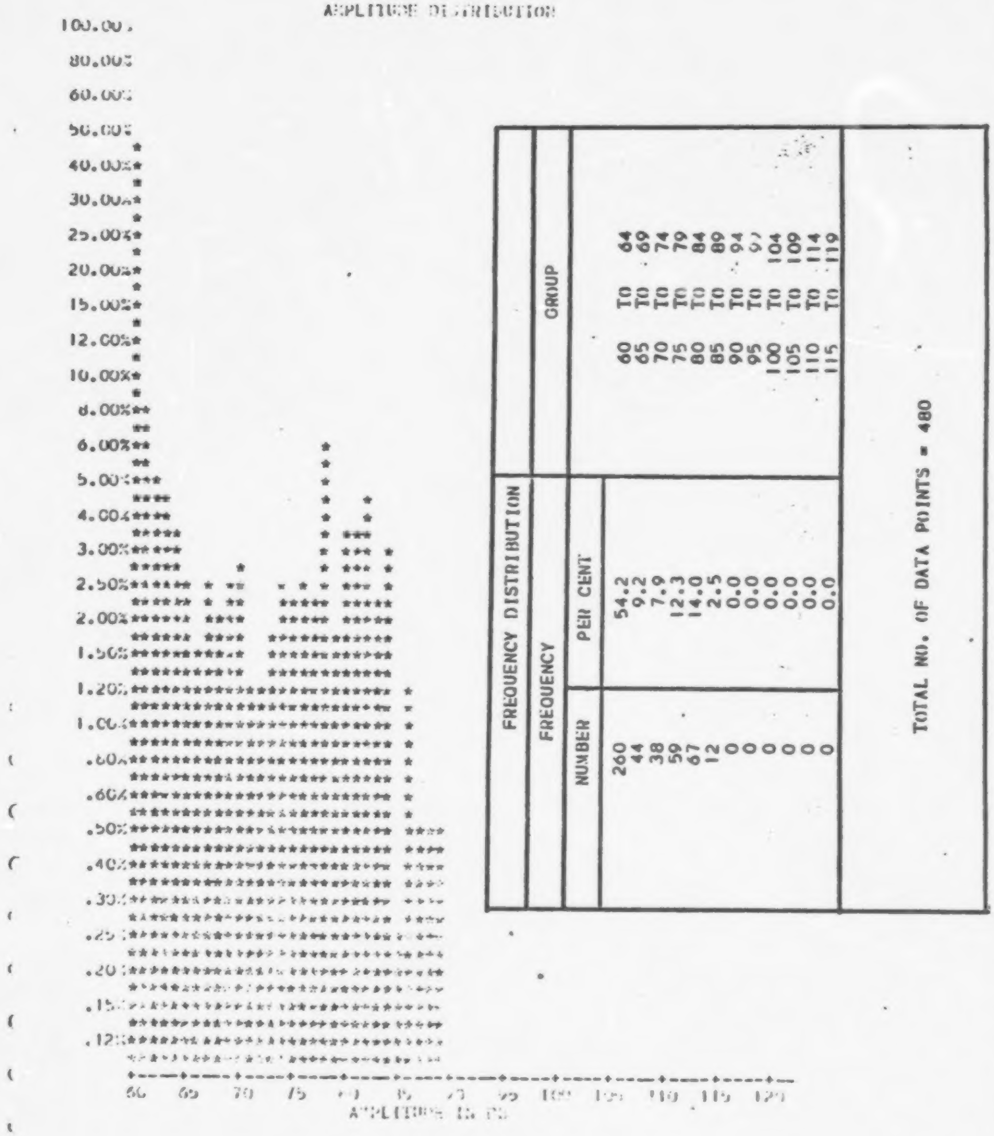

   DATA LOGGED :22 JUNE 1979            DATA ANALYZED : 24  AUG 1979
         LOGGER : DS-301/26                  SITE CODE : MILL+
  SERIAL NUMBER : 1220                        JOB CODE : PCE
       BASELINE : 60 DB                      USER CODE : 9164
  DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0               STANDBY TIME =   1:28:57

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
   1      72.0      72.0           1.031      1.03
   2      78.0      75.6           2.374      3.41
   3      64.6      73.4            .369      3.77
   4      75.0      73.9           1.565      5.34
   5      72.3      73.6           1.067      6.41
   6      65.8      72.7            .436      6.84
   7      79.1      74.1           2.748      9.59
   8      73.2      73.7            .801     10.39
MIN. COMP. =  60 DB                MAX. COMP. =  89 DB
ARITHMETIC MEAN =  67 DB
STD. DEVIATION =   9 DB
VARIANCE = [illegible] DB
```

(51)



FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
260	54.2	60 TO 64
44	9.2	65 TO 69
38	7.9	70 TO 74
59	12.3	75 TO 79
67	14.0	80 TO 84
12	2.5	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

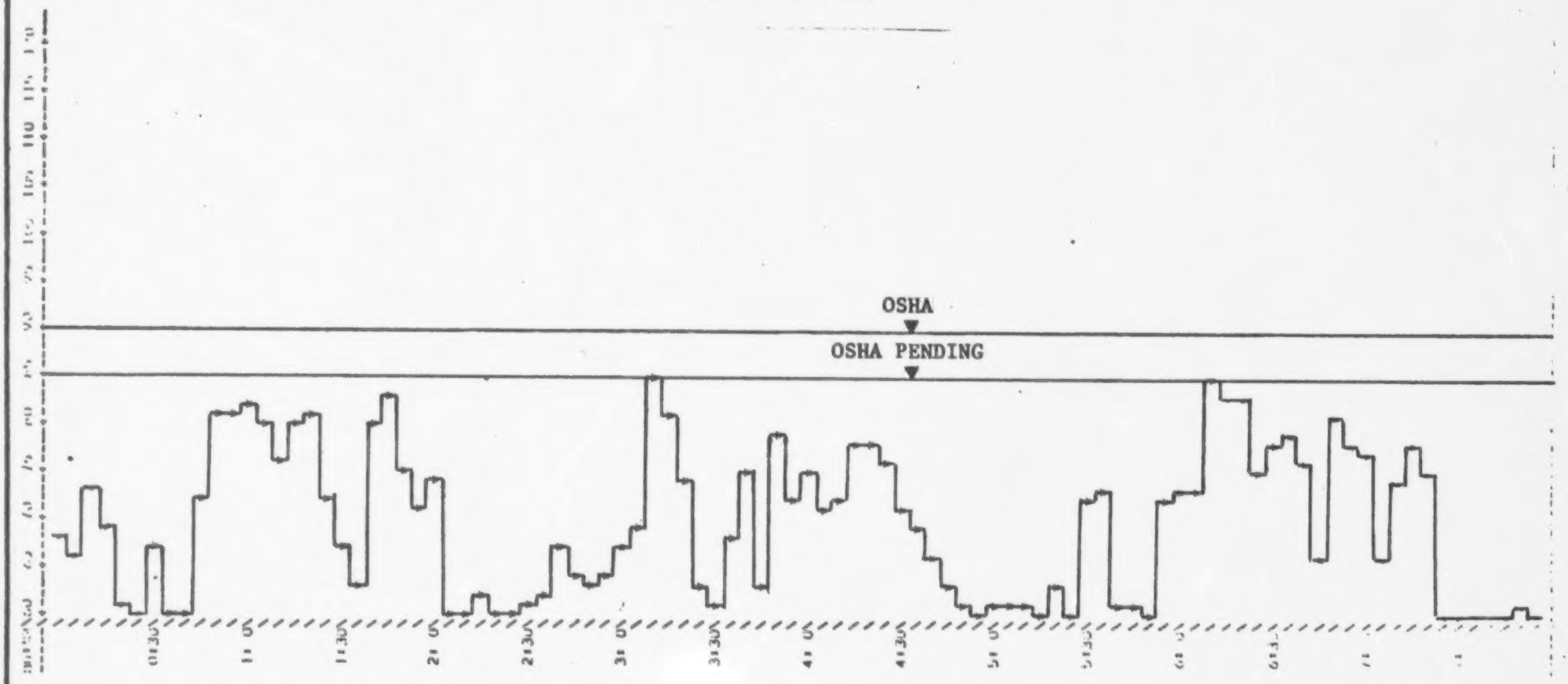
TOTAL NO. OF DATA POINTS = 480

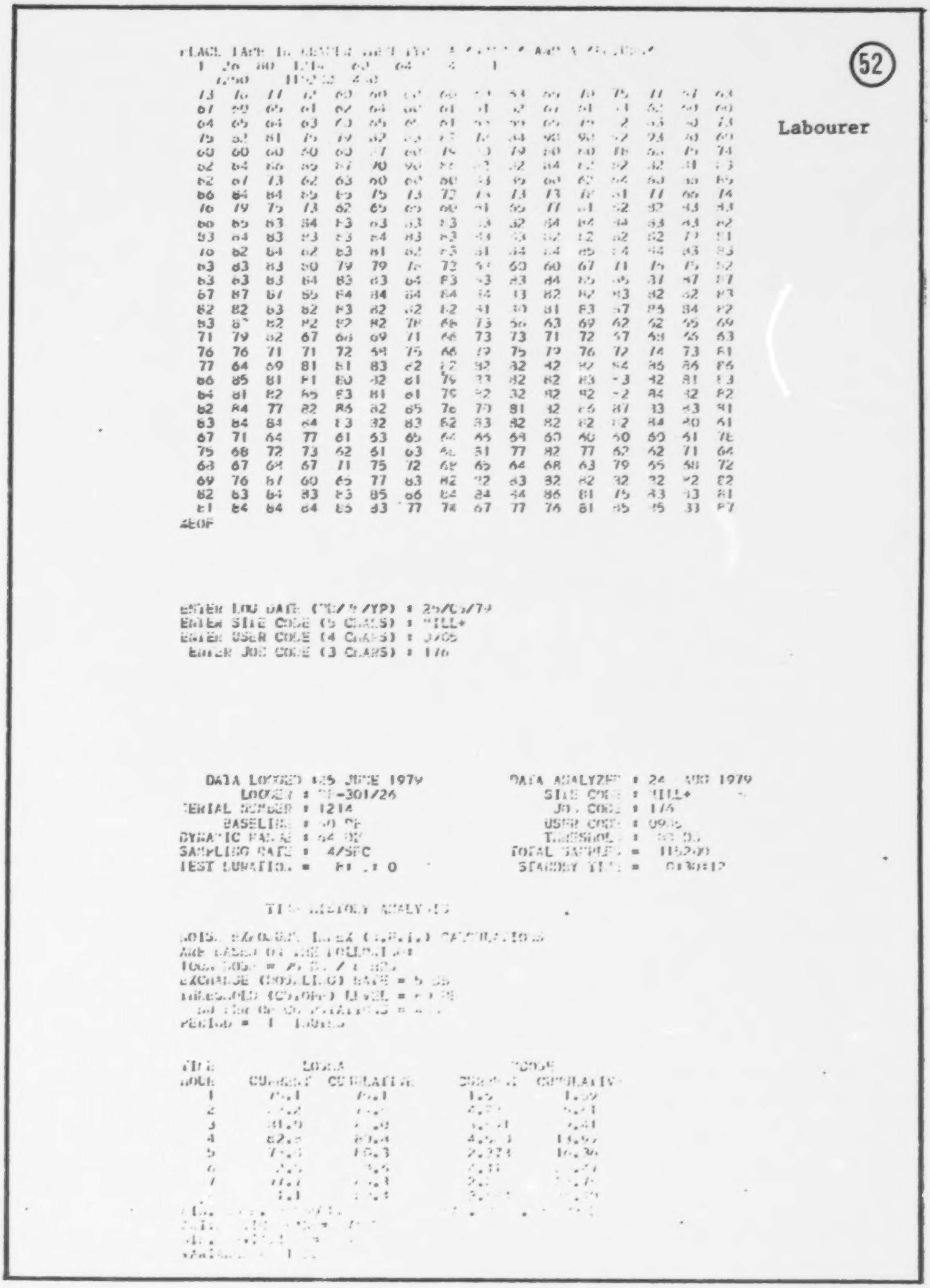
Number of computations = 480

(51)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





(52)

Labourer

```
[illegible]
  1  20  80  1214    63    64     4     1
     [illegible]     [illegible]
   73   76   77   [illegible]   60   60   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   70   75   77   [illegible]   63
   67   69   65   61   62   64   [illegible]   61   [illegible]   [illegible]   61   61   [illegible]   [illegible]   [illegible]   60
   64   65   64   63   [illegible]   65   [illegible]   61   [illegible]   [illegible]   65   [illegible]   [illegible]   [illegible]   [illegible]   73
   75   [illegible]   81   75   79   82   [illegible]   [illegible]   78   84   90   90   [illegible]   93   80   60
   60   60   60   60   60   [illegible]   [illegible]   75   [illegible]   79   80   80   [illegible]   [illegible]   75   74
   82   84   86   85   87   90   90   [illegible]   [illegible]   82   84   [illegible]   82   82   81   [illegible]
   82   67   73   62   63   60   [illegible]   60   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
   86   84   84   85   85   75   73   72   [illegible]   73   73   [illegible]   [illegible]   77   66   74
   76   79   75   73   82   65   65   66   [illegible]   [illegible]   77   [illegible]   [illegible]   82   83   83
   80   85   83   84   83   83   83   83   [illegible]   82   84   84   84   83   83   82
   93   84   83   83   83   84   83   83   [illegible]   [illegible]   [illegible]   82   82   82   [illegible]   81
   70   82   84   82   83   81   82   83   81   84   84   85   84   84   83   83
   83   83   83   80   79   79   76   72   [illegible]   60   60   67   71   75   75   82
   83   83   83   84   83   83   84   83   83   83   84   85   85   87   87   87
   67   87   87   85   84   84   84   84   84   83   82   82   83   82   82   83
   82   82   83   82   83   82   82   82   81   80   81   83   87   85   84   82
   83   [illegible]   82   82   82   82   78   66   73   56   63   69   62   62   65   69
   71   79   82   67   66   69   71   66   73   73   71   72   57   58   55   63
   76   76   71   71   72   58   75   66   79   75   79   76   72   74   73   81
   77   64   69   81   81   83   82   87   82   82   82   82   84   85   86   86
   86   85   81   81   80   82   81   79   [illegible]   82   82   83   83   82   81   83
   84   81   82   85   83   81   81   79   82   82   82   82   82   84   82   82
   82   84   77   82   86   82   85   76   79   81   82   86   87   83   83   81
   83   84   84   84   83   82   83   82   83   82   82   82   82   84   80   81
   67   71   64   77   61   53   65   64   65   59   60   60   60   60   61   76
   75   68   72   73   62   61   63   [illegible]   51   77   82   77   62   62   71   64
   68   67   68   67   71   75   72   68   65   64   68   63   79   65   58   72
   69   76   87   60   65   77   83   82   82   83   82   82   82   82   82   82
   82   83   84   83   83   85   86   84   84   84   86   81   75   83   83   81
   81   84   84   84   85   83   77   78   67   77   76   81   85   85   33   87
&EOF


ENTER LOG DATE ([illegible]/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : [illegible]05
 ENTER JOB CODE (3 CHARS) : 176

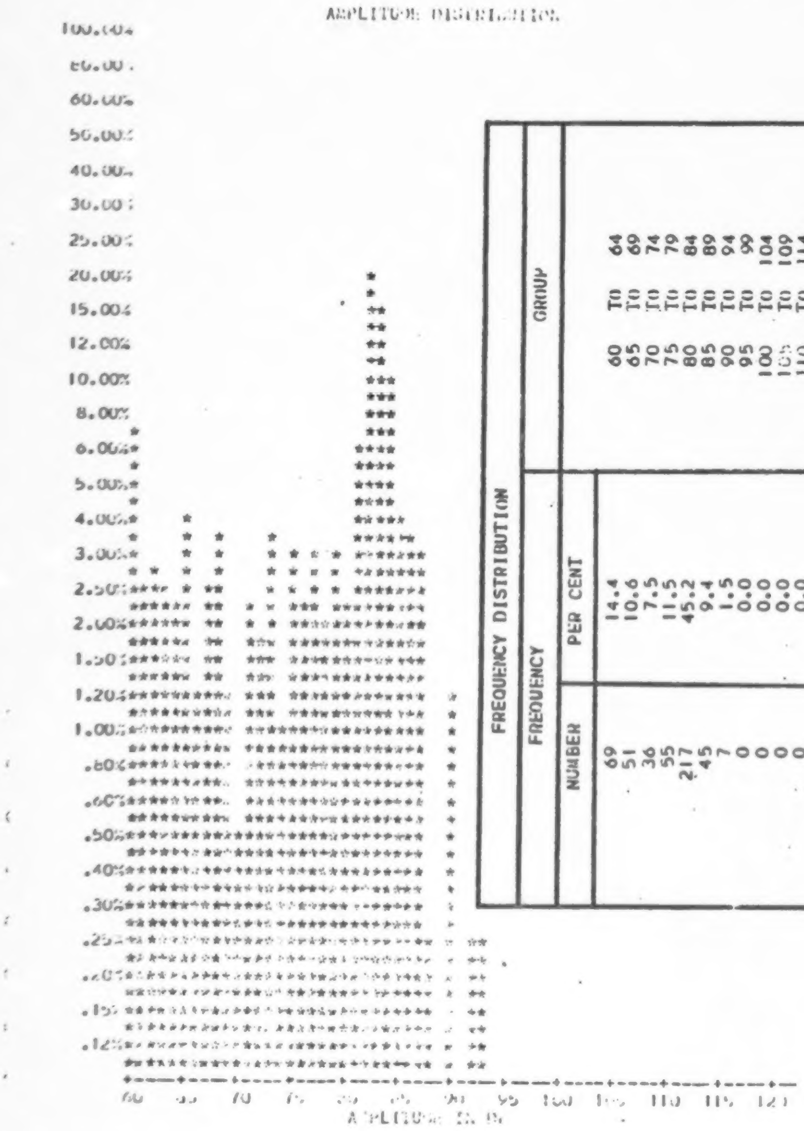

   DATA LOGGED :25 JUNE 1979          DATA ANALYZED : 24 AUG 1979
        LOGGER : [illegible]-301/26            SITE CODE : MILL+
 SERIAL NUMBER : 1214                       JOB CODE : 176
      BASELINE : 50 DB                     USER CODE : 09[illegible]5
 DYNAMIC RANGE : 64 DB                     THRESHOLD : [illegible] DB
 SAMPLING RATE :  4/SEC                TOTAL SAMPLES =  115200
 TEST DURATION =   8: .: 0              STANDBY TIME =   0:30:12

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible] DB
  [illegible]
PERIOD = 1 HOURS

TIME           [illegible]                     DOSE
HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
  1        7[illegible].1      7[illegible].1              1.[illegible]       1.[illegible]
  2        [illegible]     [illegible]             [illegible]       [illegible]
  3        81.9      [illegible]             [illegible]       [illegible].41
  4        82.[illegible]      8[illegible]              4.[illegible]       13.[illegible]
  5        7[illegible]      [illegible].3              2.[illegible]       16.3[illegible]
  6        [illegible]      [illegible]              [illegible]       [illegible]
  7        [illegible]      [illegible]              [illegible]       [illegible]
  [illegible]        [illegible].1      [illegible]              [illegible]       [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

(52)

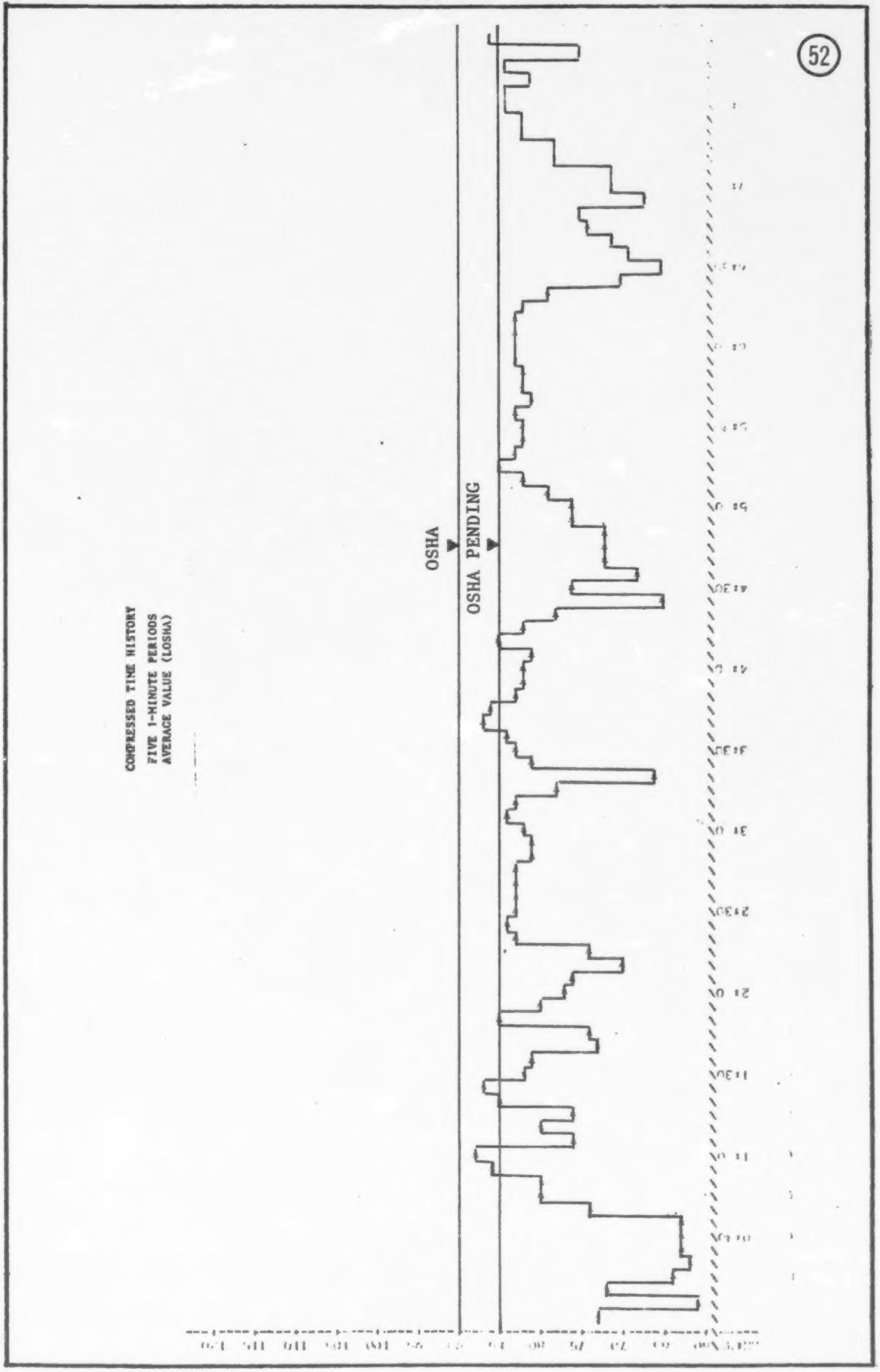


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
69	14.4	60 TO 64
51	10.6	65 TO 69
36	7.5	70 TO 74
55	11.5	75 TO 79
217	45.2	80 TO 84
45	9.4	85 TO 89
7	1.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

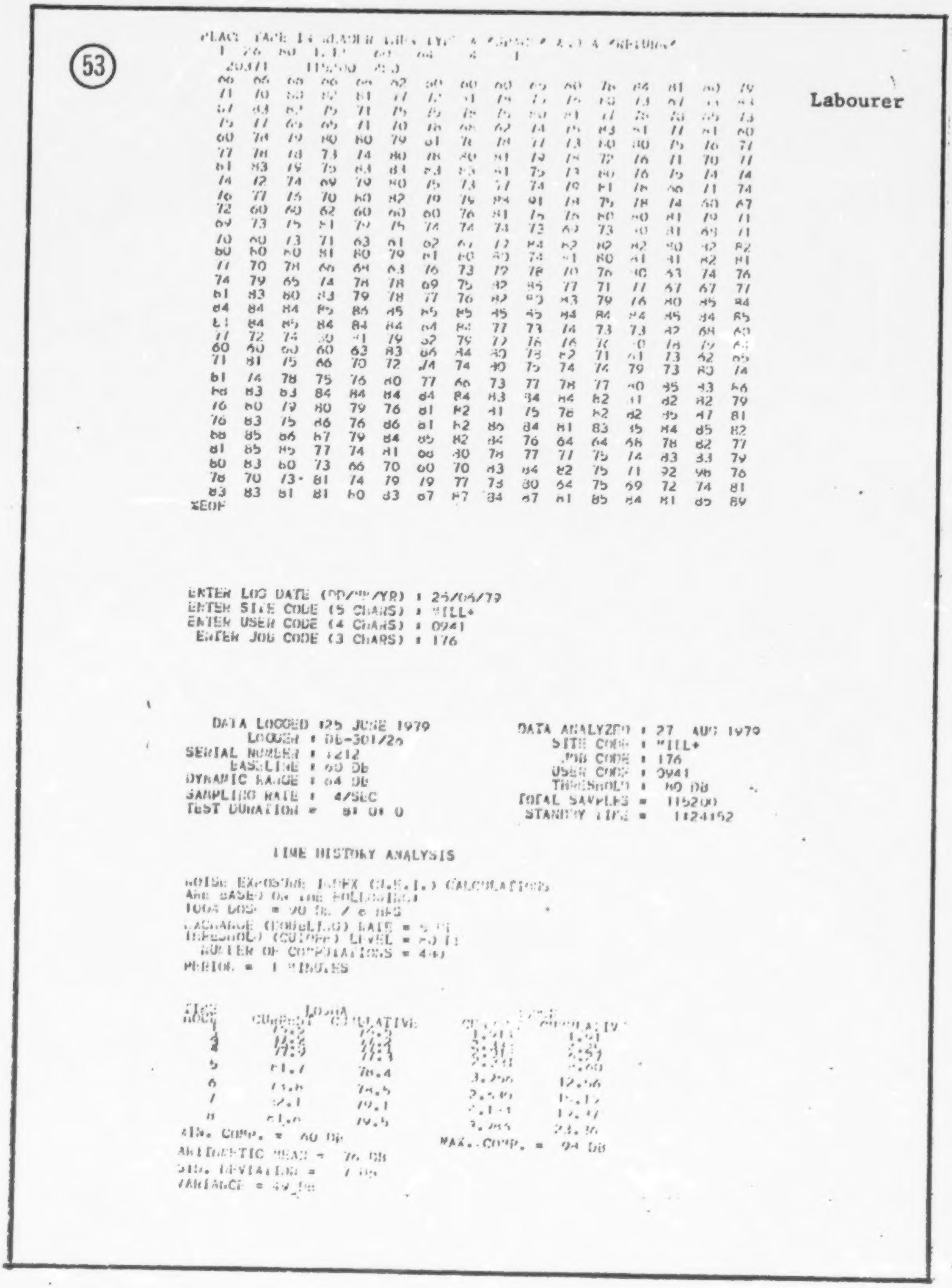
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


52
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
4:30
4:0
3:30
3:0
2:30
2:0
1:30
1:0

(53)

Labourer



```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
 1  76  80  1.1  60  64  4  1
  20371      115200  [illegible]
  60  66  60  66  60  62  60  60  60  65  60  76  84  81  60  79
  71  70  63  82  81  77  72  81  79  75  75  80  73  67  [illegible]  83
  67  83  82  75  71  75  75  78  75  80  81  77  78  78  65  73
  75  77  65  65  71  70  78  68  62  74  75  83  81  77  81  80
  60  74  79  80  80  79  81  78  78  77  73  80  80  75  76  77
  77  78  78  73  74  80  78  80  81  79  78  72  76  71  70  77
  81  83  79  75  83  83  83  83  81  75  73  80  76  75  74  74
  74  72  74  69  79  80  75  73  77  74  79  81  78  60  71  74
  76  77  75  70  80  82  79  79  84  91  78  75  78  74  60  67
  72  60  60  62  60  60  60  76  81  75  76  80  80  81  79  71
  69  73  75  81  79  75  74  74  74  73  62  73  80  81  63  71
  70  60  73  71  63  61  62  61  72  84  82  82  82  80  82  82
  80  80  80  81  80  79  81  80  80  74  81  80  81  81  82  81
  77  70  78  66  64  63  76  73  72  78  70  76  80  83  74  76
  74  79  65  74  78  78  69  75  82  85  77  71  77  67  67  77
  81  83  80  83  79  78  77  76  82  83  83  79  76  80  85  84
  84  84  84  85  85  85  85  85  85  85  84  84  84  85  84  85
  81  84  85  84  84  84  84  84  77  73  74  73  73  82  68  60
  77  72  74  80  81  79  82  79  77  76  76  76  80  78  79  63
  60  60  60  60  63  83  86  84  80  78  82  71  61  73  62  65
  71  81  75  66  70  72  74  74  80  75  74  74  79  73  80  74
  81  74  78  75  76  80  77  66  73  77  78  77  80  85  83  86
  88  83  83  84  84  84  84  84  83  84  84  82  81  82  82  79
  76  80  79  80  79  76  81  82  81  75  78  82  82  85  87  81
  76  83  75  86  76  86  81  82  85  84  81  83  85  84  85  82
  88  85  86  87  79  84  85  82  84  76  64  64  66  78  82  77
  81  85  85  77  74  81  88  80  78  77  77  75  74  83  83  79
  80  83  80  73  66  70  60  70  83  84  82  75  71  92  96  76
  78  70  73  81  74  79  79  77  73  80  64  75  69  72  74  81
  83  83  81  81  80  83  87  87  84  87  81  85  84  81  85  89
%EOF



ENTER LOG DATE (DD/MM/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0941
 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED :25 JUNE 1979            DATA ANALYZED : 27 AUG 1979
         LOGGER : DB-301/26                  SITE CODE : MILL+
  SERIAL NUMBER : 1212                        JOB CODE : 176
       BASELINE : 60 DB                      USER CODE : 0941
  DYNAMIC RANGE : 64 DB                      THRESHOLD : 80 DB
  SAMPLING RATE : 4/SEC                  TOTAL SAMPLES = 115200
  TEST DURATION =  8: 0: 0               STANDBY TIME =  1:24:52

            TIME HISTORY ANALYSIS

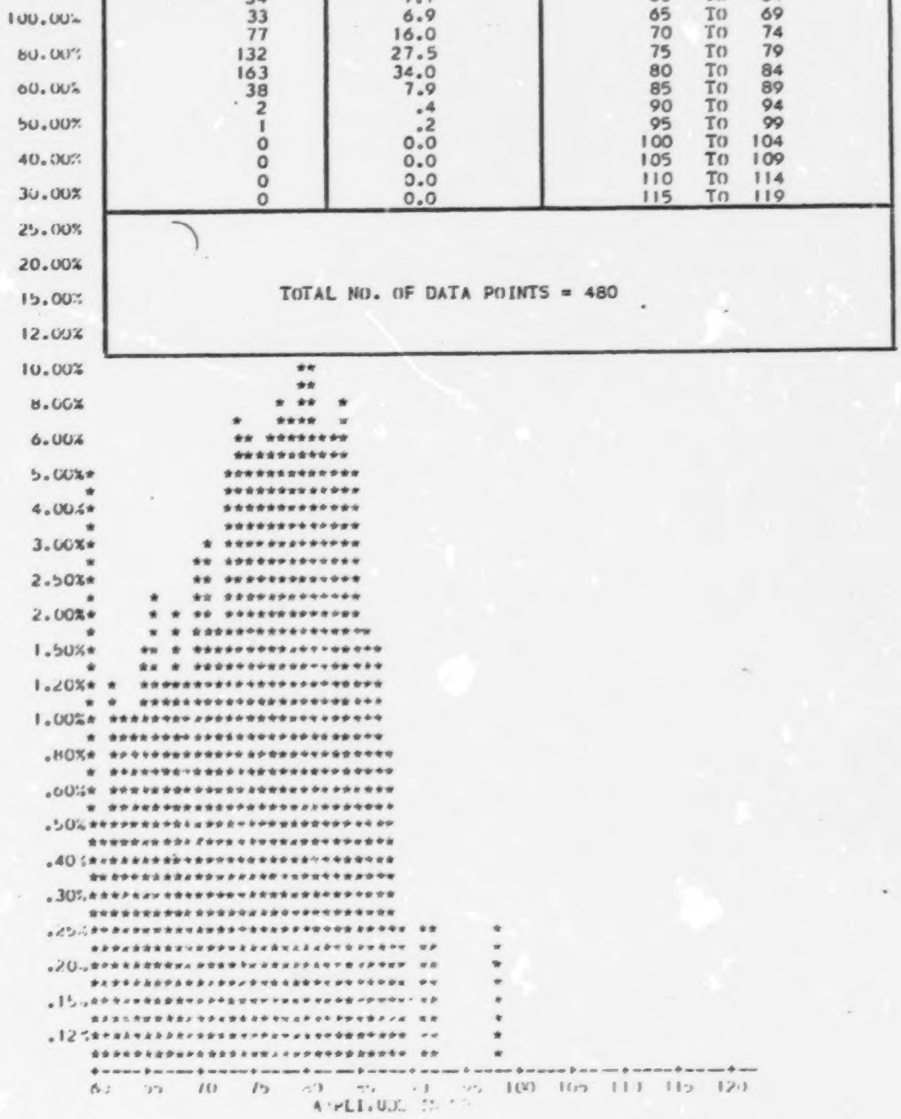
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD = 1 MINUTES

TIME          LOSHA                         DOSE
HOUR   CURRENT   CUMULATIVE        CURRENT   CUMULATIVE
  1     75.5       75.5             1.511       1.51
  [illegible]
  4     77.9       77.3             [illegible]  5.57
  5     81.7       78.4             [illegible]  [illegible].60
  6     73.6       78.5             3.256      12.56
  7     82.1       79.1             2.540      15.1[illegible]
  8     81.6       79.5             2.1[illegible]  17.47
                                    3.[illegible]  23.36
MIN. COMP. =  60 DB               MAX. COMP. =  94 DB
ARITHMETIC MEAN =  76 DB
STD. DEVIATION =   7 DB
VARIANCE = 49 DB
```

(53)

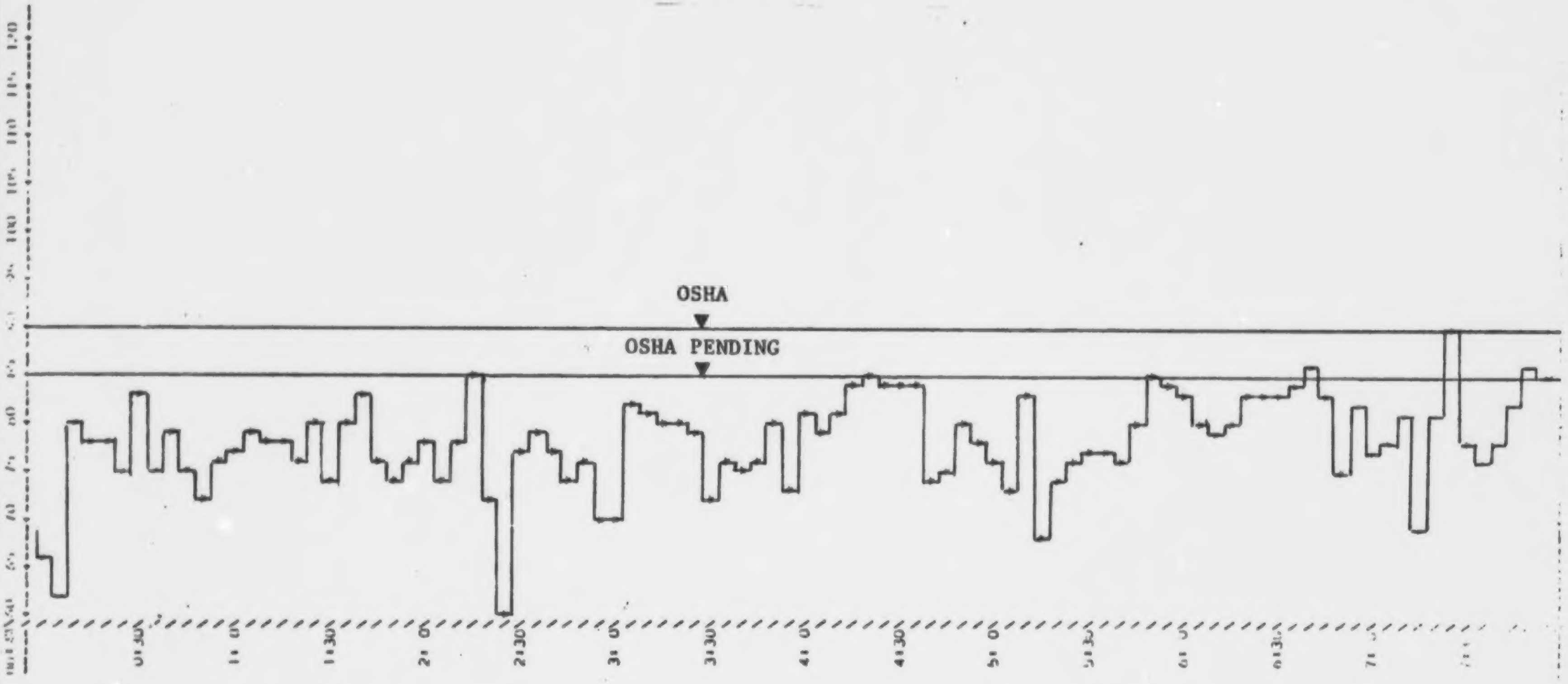
AMPLITUDE DISTRIBUTION

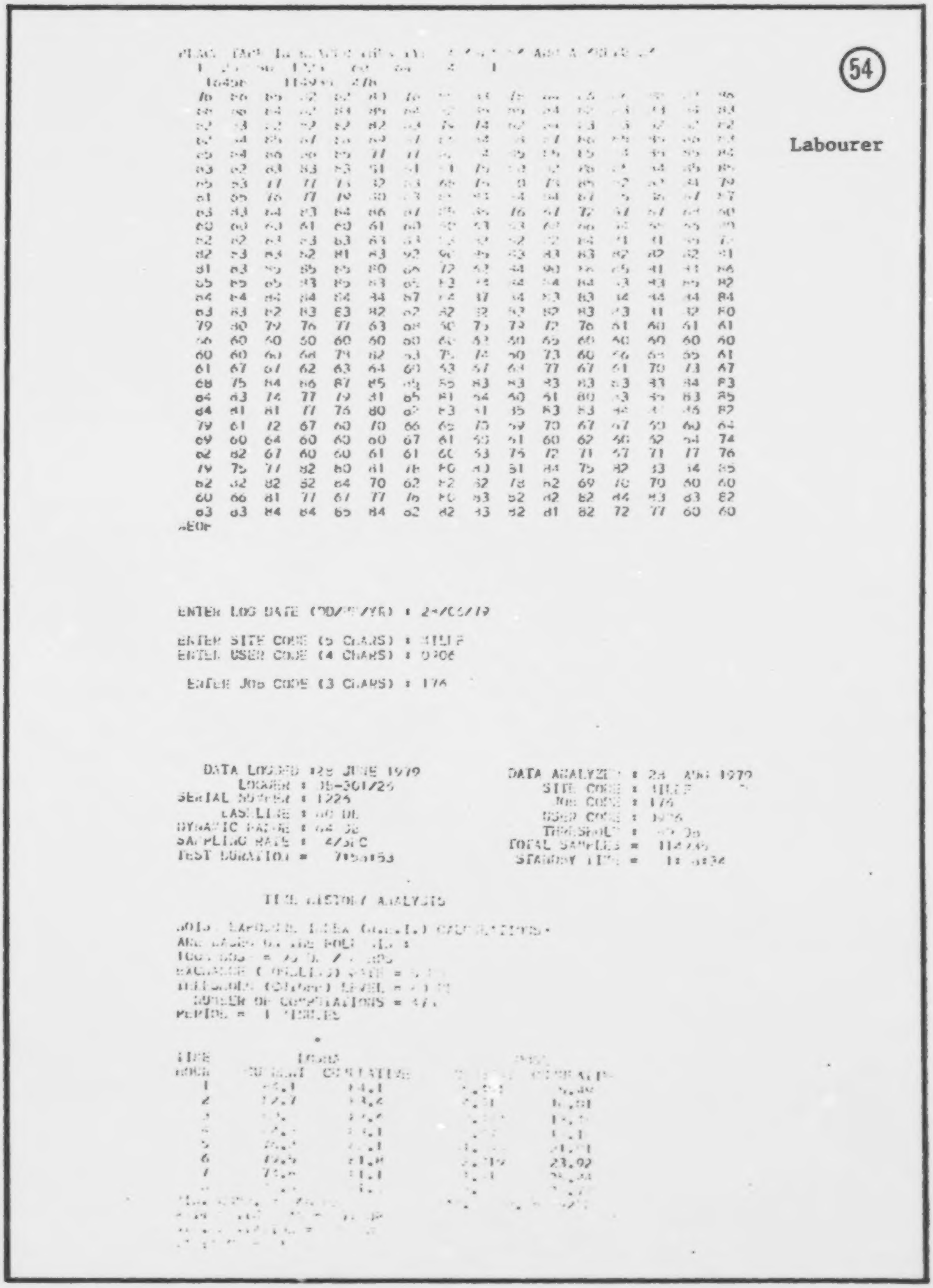
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
34	7.1	60 TO 64
33	6.9	65 TO 69
77	16.0	70 TO 74
132	27.5	75 TO 79
163	34.0	80 TO 84
38	7.9	85 TO 89
2	.4	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		



Number of computations = 480

(53)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0



```
[illegible]
 1 [illegible]                                1
  16456      11499[illegible]  276
 76  86  85  82  82  81  76  [illegible] 83  75  [illegible] 85  [illegible] [illegible] [illegible] 86
 88  80  84  82  84  85  84  [illegible] 85  85  84  82  83  83  84  83
 82  83  82  82  82  82  83  76  74  82  [illegible] 83  83  82  82  82
 87  84  85  87  86  84  87  [illegible] 88  86  87  86  85  85  86  83
 85  84  86  80  85  77  77  [illegible] 84  85  85  85  84  85  85  84
 83  82  83  83  83  81  81  81  75  83  82  76  [illegible] 84  85  85
 85  83  77  77  75  82  83  76  75  [illegible] 73  85  82  [illegible] 84  79
 81  85  76  77  79  80  83  [illegible] 83  84  84  87  85  86  87  87
 83  83  84  83  84  86  87  85  85  76  87  72  87  87  84  80
 60  60  63  61  60  61  60  60  63  63  60  60  60  60  65  60
 82  82  83  83  83  83  83  [illegible] 82  82  82  84  81  81  85  72
 82  83  83  82  81  83  92  90  85  83  83  83  82  82  82  81
 81  83  85  85  85  80  66  72  82  84  90  86  85  81  81  86
 85  85  85  83  85  83  85  83  84  84  84  84  83  83  85  82
 84  84  84  84  84  84  87  84  87  84  83  83  84  84  84  84
 83  83  82  83  83  82  82  82  82  82  82  83  83  81  82  80
 79  80  79  76  77  63  68  50  75  79  72  76  61  60  61  61
 66  60  60  60  60  60  60  66  62  60  65  60  60  60  60  60
 60  60  60  68  79  82  63  75  74  60  73  60  66  65  65  61
 61  67  67  62  63  64  60  63  67  63  77  67  61  70  73  67
 68  75  84  86  87  85  83  55  83  83  83  83  83  83  84  83
 84  83  74  77  79  81  85  81  64  60  61  80  83  85  83  85
 84  81  81  77  76  80  82  83  81  85  83  83  84  [illegible] 86  87
 79  61  72  67  60  70  66  65  75  59  70  67  67  59  60  64
 69  60  64  60  60  60  67  61  60  61  60  62  60  62  64  74
 82  82  67  60  60  61  61  60  63  75  72  71  67  71  77  76
 79  75  77  82  80  81  78  80  80  51  84  75  82  83  84  85
 82  82  82  82  84  70  62  82  82  78  82  69  70  70  60  60
 60  66  81  77  67  77  76  80  83  52  82  82  84  83  83  82
 83  83  84  84  65  84  82  82  83  82  81  82  72  77  60  60
 EOF



ENTER LOG DATE (DD/MM/YR) : 24/06/79

ENTER SITE CODE (5 CHARS) : SILIF
ENTER USER CODE (4 CHARS) : 0706

 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED :28 JUNE 1979              DATA ANALYZED : 28 AUG 1979
        LOGGER : DS-301/25                     SITE CODE : SILIF
 SERIAL NUMBER : 1225                           JOB CODE : 176
      BASELINE : 60 DB                         USER CODE : 0706
 DYNAMIC RANGE : 64 DB                         THRESHOLD : [illegible] DB
 SAMPLING RATE : 4/SEC                     TOTAL SAMPLES =  114246
 TEST DURATION =   7H55M53                  STANDBY TIME =   1H [illegible]

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS:
ARE BASED ON THE FOLLOWING :
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 47
PERIOD = 1 HOURS

TIME          LOSHA                       [illegible]
HOUR    CURRENT  CUMULATIVE         CURRENT   CUMULATIVE
  1       85.1       84.1           [illegible]      9.48
  2       82.7       83.4           [illegible]     16.81
  3     [illegible]  83.4           [illegible]   [illegible]
  4     [illegible]  83.1           [illegible]   [illegible]
  5     [illegible]  [illegible]    [illegible]   [illegible]
  6       79.5       81.8             2.19        23.92
  7       79.[illegible] 81.1       [illegible]   [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

54

Labourer

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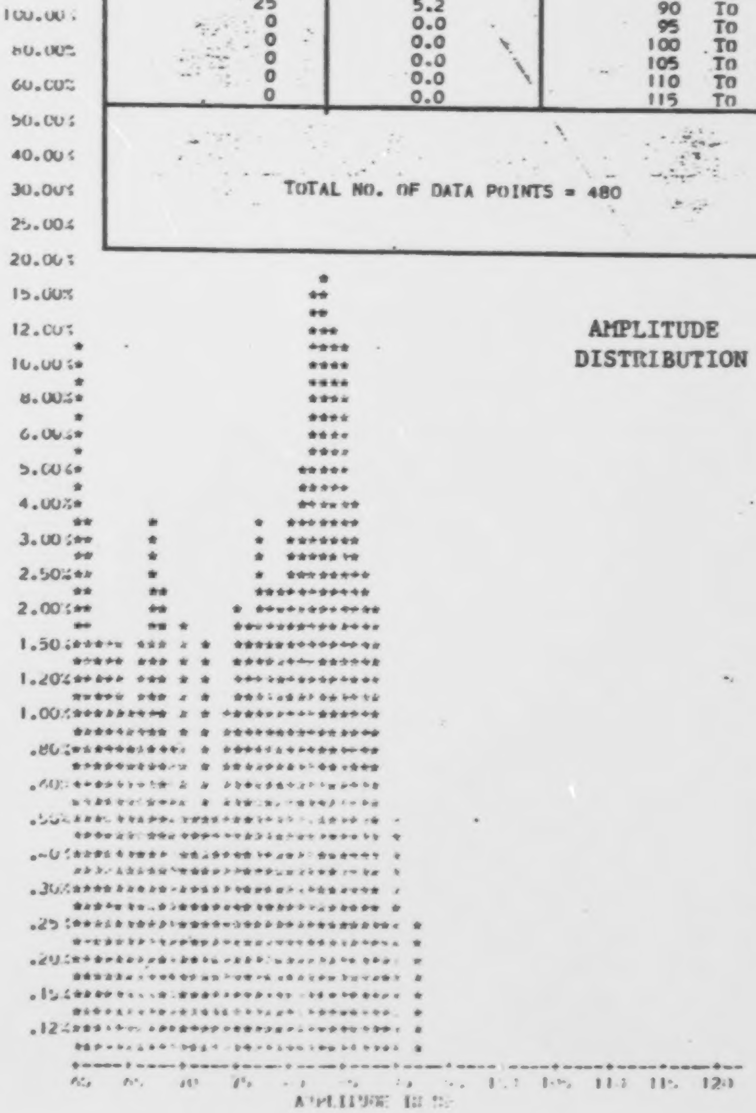
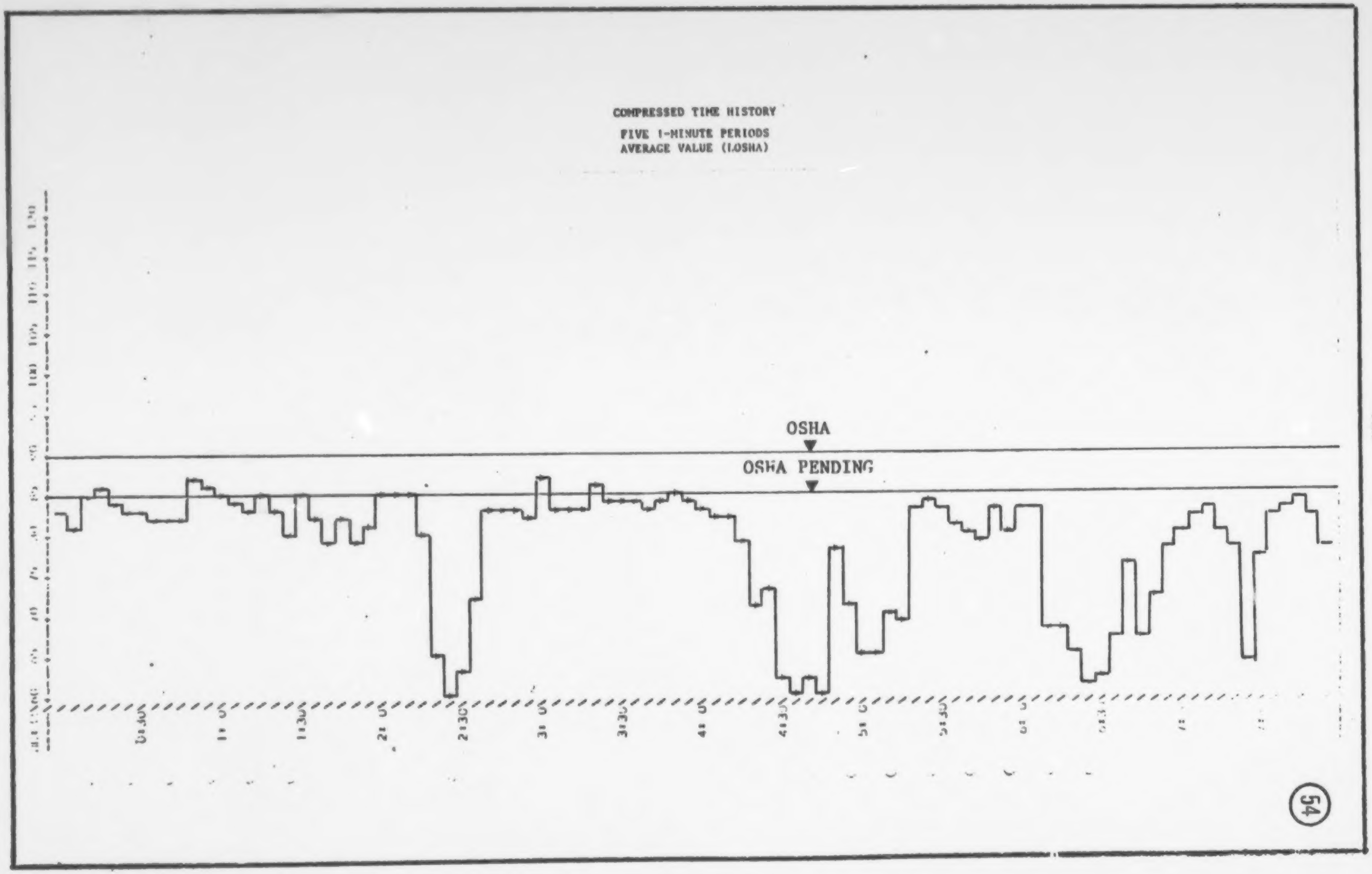
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
52	10.8	60 To 64
21	4.4	65 To 69
23	4.8	70 To 74
22	4.6	75 To 79
150	31.3	80 To 84
187	39.0	85 To 89
25	5.2	90 To 94
0	0.0	95 To 99
0	0.0	100 To 104
0	0.0	105 To 109
0	0.0	110 To 114
0	0.0	115 To 119

TOTAL NO. OF DATA POINTS = 480

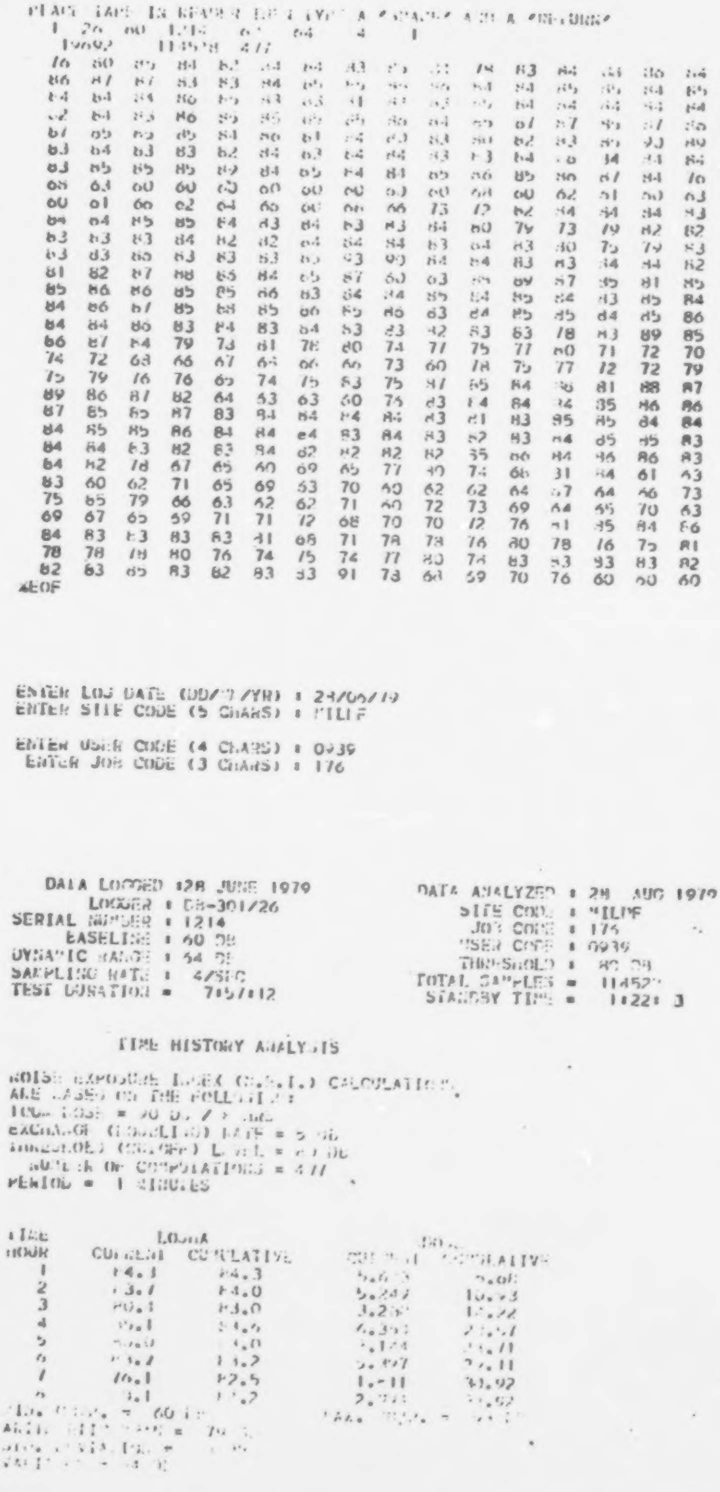


AMPLITUDE DISTRIBUTION

Number of computations = 478


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(55)



```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  60  1214  64  64   4   1
   19692    114528  477
  76  80  85  84  82  84  84  83  85  83  78  83  84  84  86  84
  86  87  87  83  83  84  85  85  86  86  84  84  85  85  84  85
  84  84  84  86  85  83  83  81  83  83  85  84  84  84  84  84
  82  84  83  86  85  85  85  85  86  84  85  87  87  85  87  86
  87  85  85  85  84  86  81  84  83  83  80  82  83  85  93  80
  83  84  83  83  82  84  83  84  84  83  83  84  80  84  84  84
  83  85  85  85  89  84  85  84  84  85  86  85  80  87  84  70
  68  63  60  60  60  60  60  60  60  60  68  60  62  61  60  63
  60  61  60  62  64  60  60  60  66  73  72  82  84  84  84  83
  84  84  85  85  84  83  84  83  83  84  80  79  73  79  82  82
  83  83  83  84  82  82  84  84  84  83  84  83  80  75  79  83
  83  83  80  83  83  83  85  93  90  84  84  83  83  84  84  82
  81  82  87  88  85  84  85  87  60  63  89  89  87  85  81  85
  85  86  86  85  85  86  83  84  84  85  84  85  84  83  85  84
  84  86  87  85  88  85  86  85  86  83  84  85  85  84  85  86
  84  84  86  83  84  83  84  83  83  82  83  63  78  83  89  85
  86  87  84  79  73  81  78  80  74  77  75  77  80  71  72  70
  74  72  68  66  67  65  66  66  73  60  78  75  77  72  72  79
  75  79  76  76  65  74  75  83  75  87  85  84  86  81  88  87
  89  86  87  82  64  63  63  60  76  83  84  84  84  85  86  86
  87  85  85  87  83  84  84  84  84  83  81  83  85  85  84  84
  84  85  85  86  84  84  84  83  84  83  82  83  84  85  85  83
  84  84  83  82  83  84  82  82  82  82  85  86  84  86  86  83
  84  82  78  67  65  60  69  65  77  70  74  66  31  84  61  63
  83  60  62  71  65  69  63  70  60  62  62  64  67  64  66  73
  75  65  79  66  63  62  62  71  60  72  73  69  64  65  70  63
  69  67  65  59  71  71  72  68  70  70  72  76  61  85  84  86
  84  83  83  83  83  81  68  71  78  78  76  80  78  76  75  81
  78  78  78  80  76  74  75  74  77  80  78  83  83  93  83  82
  82  63  85  83  82  83  83  91  73  68  59  70  76  60  60  60
*EOF



ENTER LOG DATE (DD/MM/YR) : 28/06/79
ENTER SITE CODE (5 CHARS) : MILIF

ENTER USER CODE (4 CHARS) : 0939
 ENTER JOB CODE (3 CHARS) : 176



   DATA LOGGED :28 JUNE 1979              DATA ANALYZED : 28  AUG 1979
         LOGGER : DS-301/26                     SITE CODE : MILPF
  SERIAL NUMBER : 1214                           JOB CODE : 176
       BASELINE : 60 DB                         USER CODE : 0939
  DYNAMIC RANGE : 54 DB                         THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  11452[illegible]
  TEST DURATION =   7:57:12                  STANDBY TIME =   1:22: 3

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 477
PERIOD =  1 MINUTES

TIME           LOSHA                      DOSE
HOUR    CURRENT   CUMULATIVE       CURRENT   CUMULATIVE
   1      84.3       84.3           5.6[illegible]     5.6[illegible]
   2      83.7       84.0           5.24[illegible]    10.93
   3      80.1       83.0           3.2[illegible]     14.22
   4      8[illegible].1       83.6           6.35[illegible]    2[illegible].57
   5      [illegible].0       [illegible].0           [illegible].1[illegible]4    2[illegible].71
   6      8[illegible].7       83.2           5.[illegible]7     2[illegible].11
   7      76.1       82.5           1.[illegible]11    30.92
   8      [illegible].1       8[illegible].2           2.[illegible]     [illegible].62
MIN. [illegible] =  60 DB                MAX. [illegible] = [illegible]
ARITH. MEAN =  79 [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

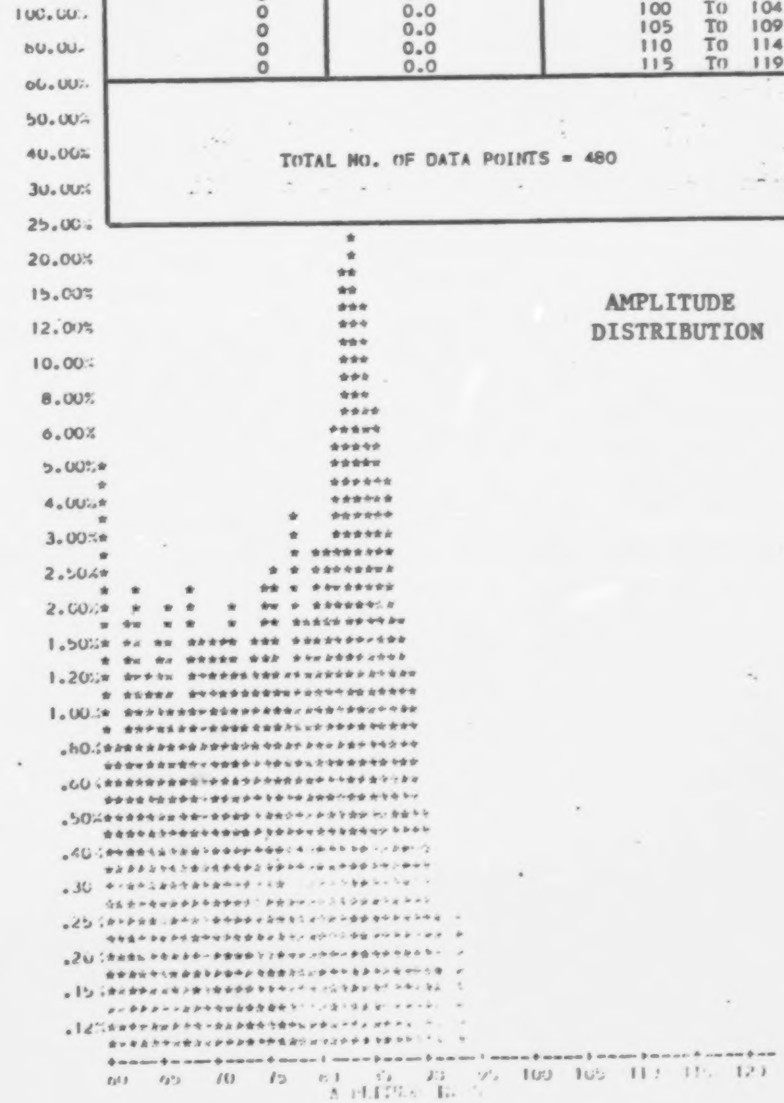
Labourer

(55)

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
118	24.6	60 TO 64
18	3.8	65 TO 69
22	4.6	70 TO 74
35	7.3	75 TO 79
195	40.6	80 TO 84
82	17.1	85 TO 89
10	2.1	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

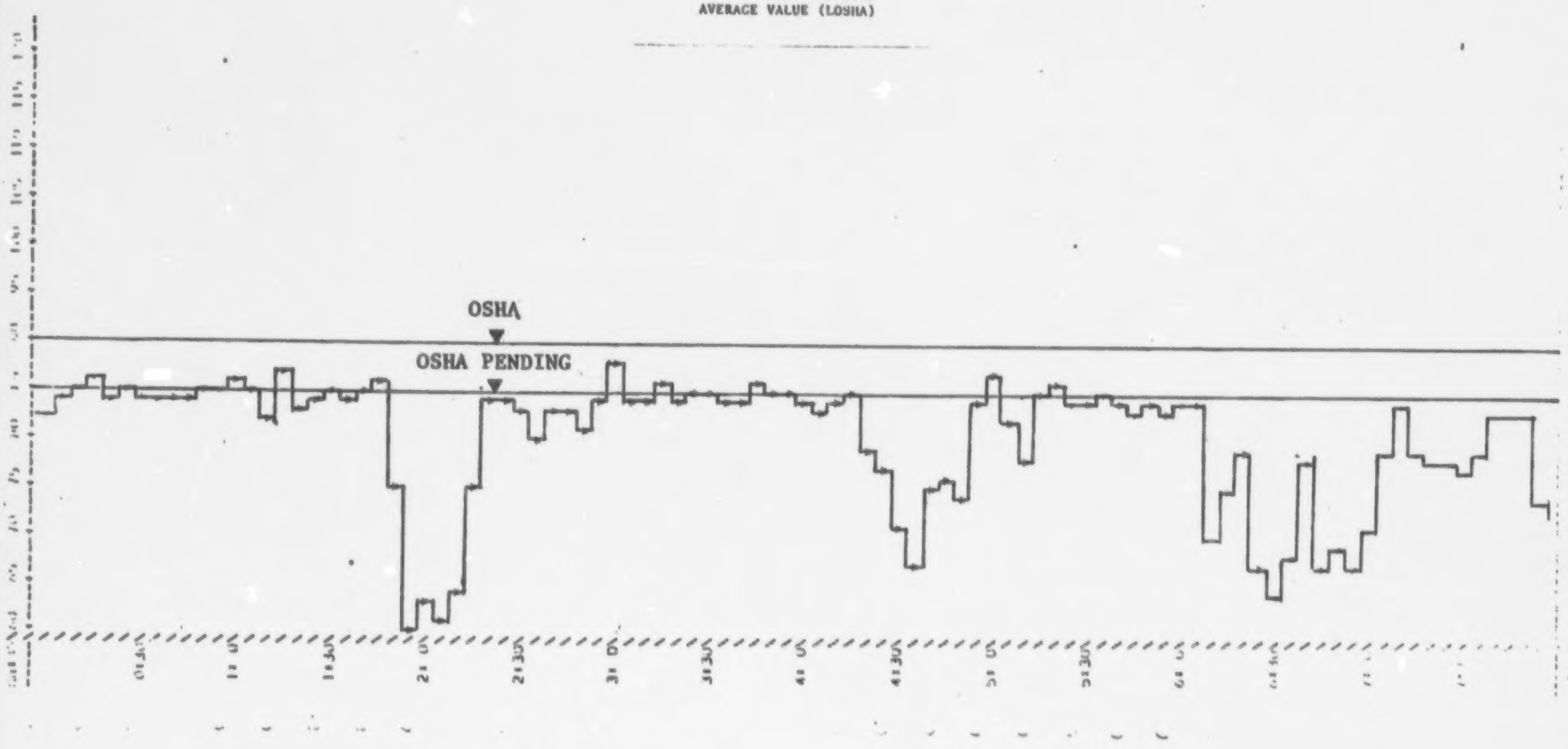


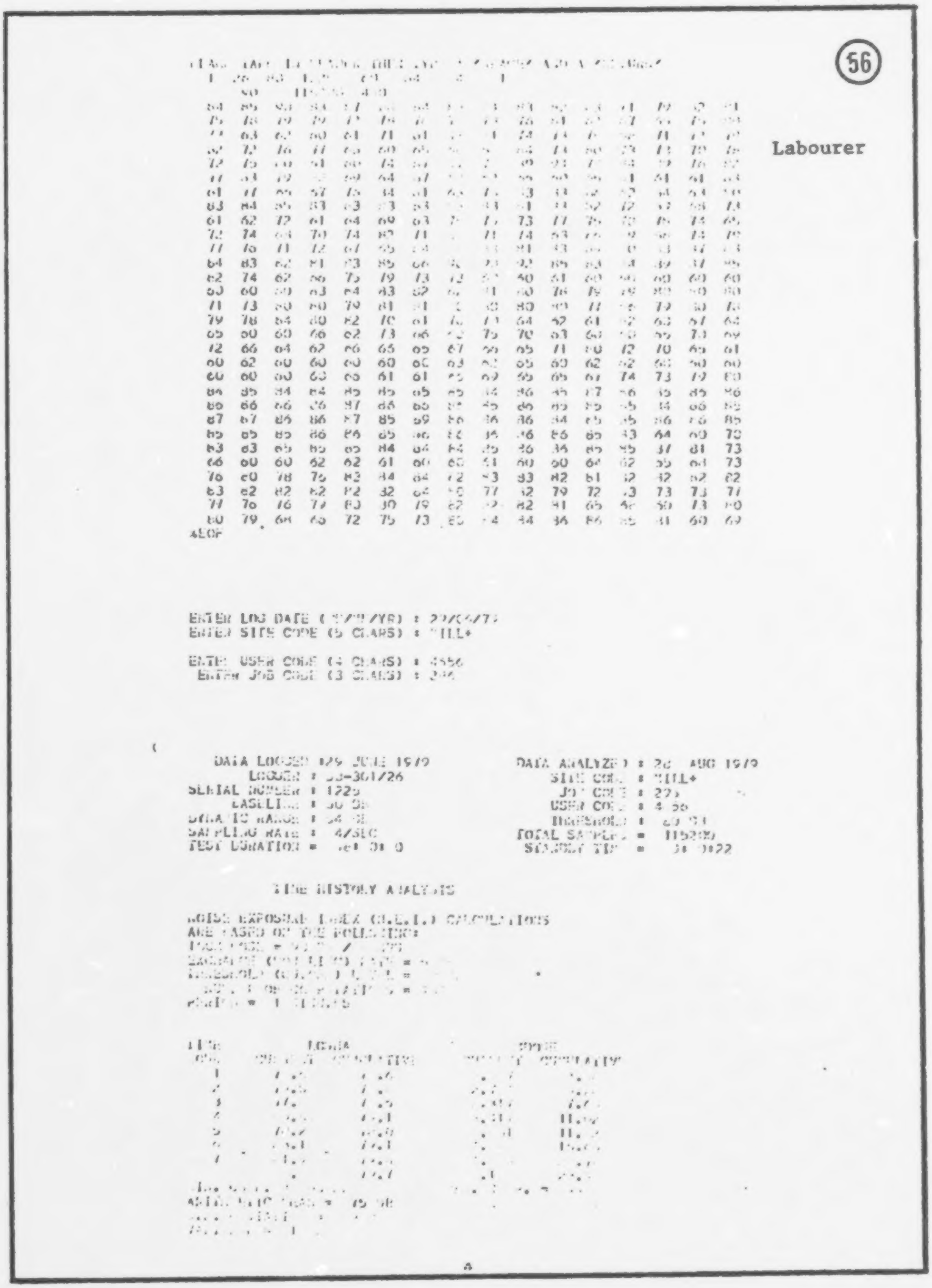
AMPLITUDE DISTRIBUTION

Number of computations = 477

(55)

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





(56)

Labourer

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[illegible]
 I  26  83  [illegible]
      80     [illegible]
  64  85  [illegible] [illegible]  87 [illegible]  64 [illegible] [illegible]  83 [illegible] [illegible]  71  72  62 [illegible]
  76  78  79  79 [illegible]  78 [illegible] [illegible] [illegible]  78 [illegible] [illegible]  67 [illegible]  76 [illegible]
 [illegible]  63  62  60  61  71  61 [illegible] [illegible]  78 [illegible] [illegible] [illegible]  71 [illegible] [illegible]
 [illegible]  72  76  77 [illegible]  60 [illegible] [illegible] [illegible] [illegible]  74 [illegible] [illegible]  73  78  76
  72  75 [illegible]  61 [illegible]  74 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]  76 [illegible]
  77  63  79 [illegible] [illegible]  64  67 [illegible] [illegible] [illegible] [illegible] [illegible]  61  61  61 [illegible]
  61  77 [illegible]  57  75  84  61 [illegible] [illegible]  83 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
  83  84 [illegible]  83  63  73  63 [illegible] [illegible]  61 [illegible]  62  72 [illegible] [illegible]  73
  61  62  72  61  64  69  63 [illegible] [illegible]  73  77 [illegible] [illegible] [illegible]  74 [illegible]
  72  74 [illegible]  70  74  82  71 [illegible]  71  74  63 [illegible] [illegible] [illegible]  74 [illegible]
  77  76  71  72  67 [illegible] [illegible] [illegible] [illegible]  81  83 [illegible] [illegible] [illegible]  47 [illegible]
  64  83  62  81  83  85  66 [illegible] [illegible] [illegible]  85  83 [illegible] [illegible]  37 [illegible]
  62  74  62 [illegible]  75  79  73  72 [illegible]  80  61  60 [illegible]  60  60  60
  60  60 [illegible]  63  64  83  82 [illegible]  71  60  78  79 [illegible] [illegible] [illegible] [illegible]
  71  73  80  80  79  81 [illegible] [illegible] [illegible]  80 [illegible]  77 [illegible]  79  80 [illegible]
  79  78  84  80  82  70  61 [illegible] [illegible]  64  62  61 [illegible]  63  67  64
  65  60  60  66  62  73  66 [illegible]  75  70  63 [illegible] [illegible] [illegible]  73  69
  72  66  64  62  66  65  65  67 [illegible]  65  71  80  72  70  65  61
  60  62  60  60  60  60  60  63 [illegible]  65  60  62  62 [illegible] [illegible]  60
  60  60  60  63  65  61  61 [illegible]  69 [illegible]  65  61  74  73  79  80
  84  85  84  84  85  85  85  85 [illegible]  86 [illegible]  87 [illegible] [illegible]  85  86
  86  86  86  86  87  86  86 [illegible]  85  86  85  85 [illegible]  84  86  85
  87  87  86  86  87  85  89  86  86  86  84  85  85  86  86  85
  85  85  85  86  86  85  86 [illegible]  86  86  86  85  83  84  80  70
  83  83  85  85  85  84  84  84  85  86  86  85  85  87  81  73
  66  60  60  62  62  61  60  60 [illegible]  60  60  64  62  55  64  73
  76  80  78  75  83  84  84  72  83  83  82  81  82  82  82  82
  83  82  82  82  82  82  84  80  77  82  79  72  83  73  73  77
  77  76  76  77  80  80  79  82 [illegible]  82  81  65 [illegible]  80  73  80
  80  79  68  65  72  75  73  85  84  84  86  86  85  81  60  69
&EOF


ENTER LOG DATE ([illegible]/YR) : 29/06/7[illegible]
ENTER SITE CODE (5 CHARS) : [illegible]ILL+

ENTER USER CODE (4 CHARS) : 4556
 ENTER JOB CODE (3 CHARS) : 2[illegible]


   DATA LOGGED :29 JUNE 1979              DATA ANALYZED : 28  AUG 1979
        LOGGER : 33-301/26                     SITE CODE : [illegible]ILL+
 SERIAL NUMBER : 1225                           JOB CODE : 275
      BASELINE : 50 DB                         USER CODE : 4 56
 DYNAMIC RANGE : 54 DB                         THRESHOLD : [illegible] DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION = [illegible] 0               STANDBY TIME =    [illegible]:22

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

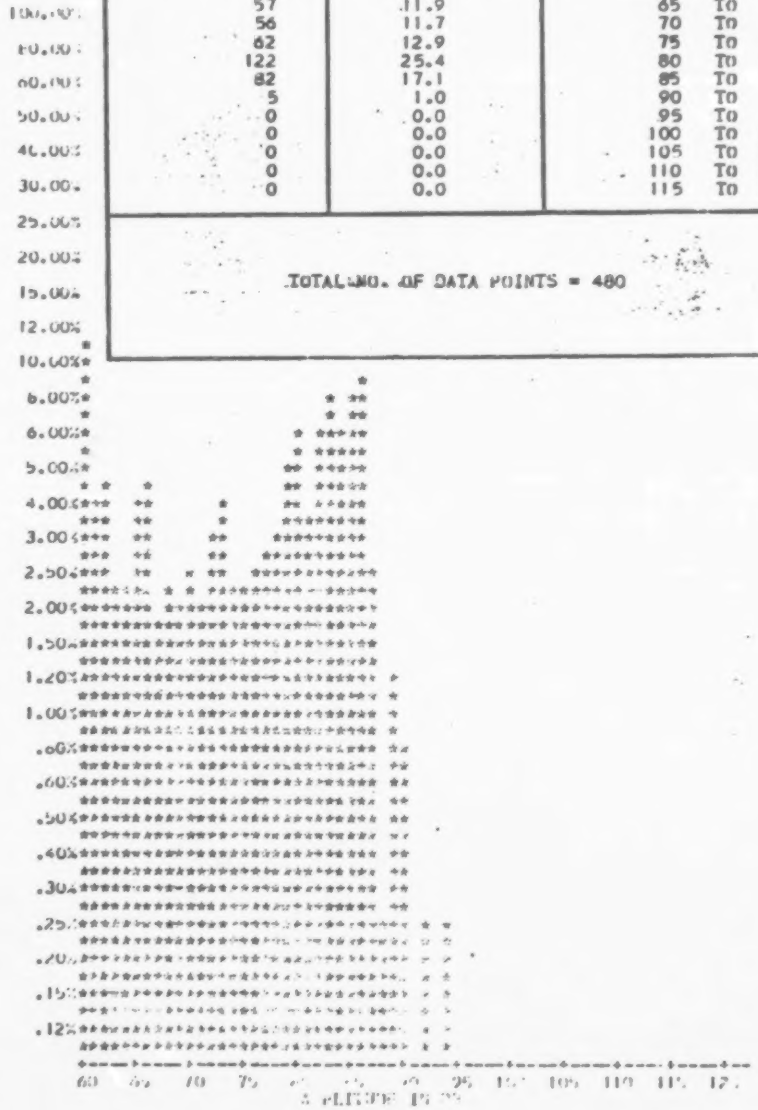
[illegible]           [illegible]                          [illegible]
[illegible]    [illegible]                           [illegible]
   1            [illegible]       [illegible]          [illegible]     [illegible]
   2            [illegible]       [illegible]          [illegible]     [illegible]
   3            [illegible]       [illegible]          [illegible]     [illegible]
   4            [illegible]       [illegible]          [illegible]     11.[illegible]
   5            [illegible]       [illegible]          [illegible]     11.[illegible]
   6            [illegible]       [illegible]          [illegible]     [illegible]
   7            [illegible]       [illegible]          [illegible]     [illegible]
                                  [illegible]          [illegible]     [illegible]
[illegible]
[illegible] = 75 DB
[illegible]
[illegible]
```

(56)

AMPLITUDE DISTRIBUTION

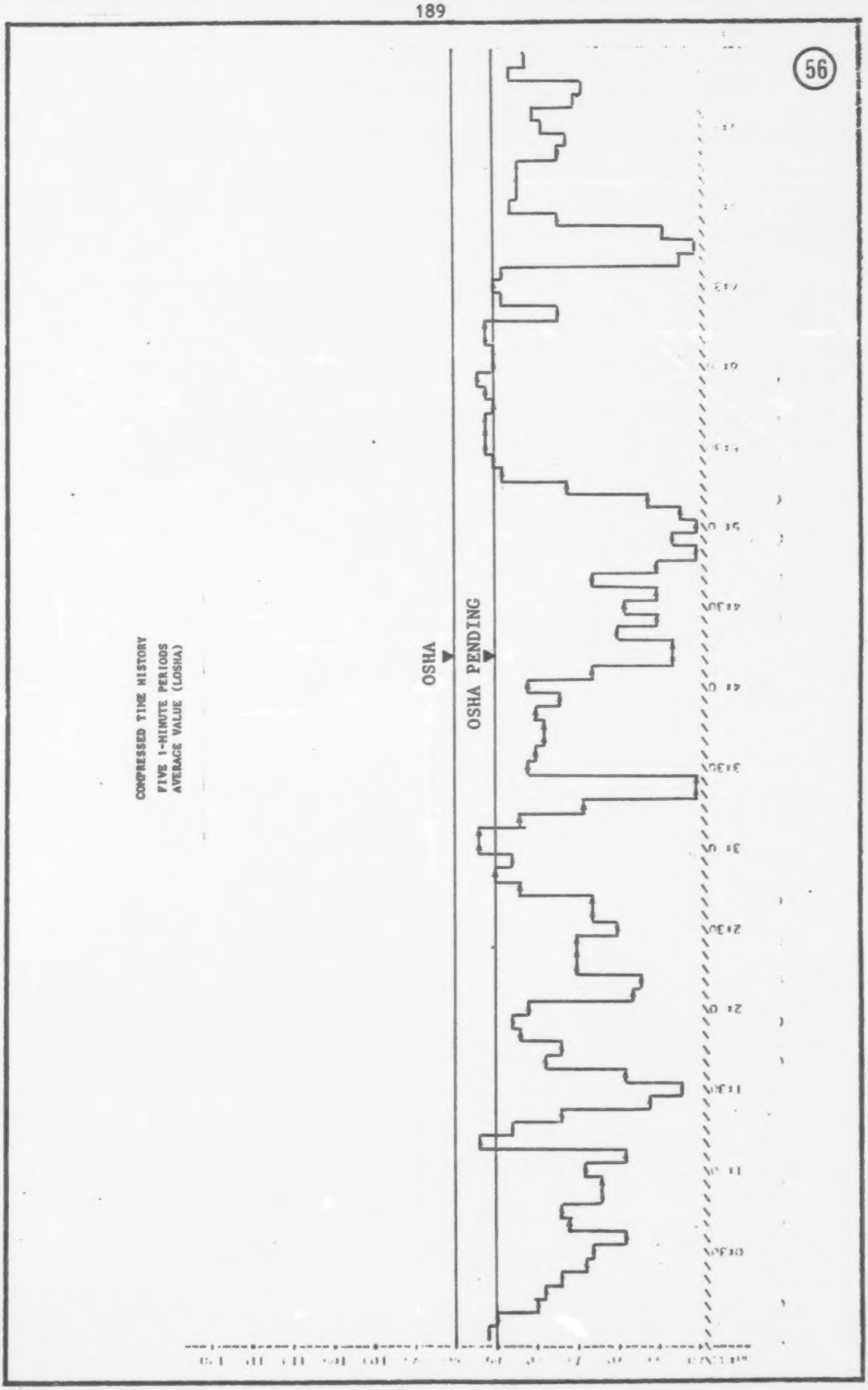
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
96	20.0	60 TO 64
57	11.9	65 TO 69
56	11.7	70 TO 74
62	12.9	75 TO 79
122	25.4	80 TO 84
82	17.1	85 TO 89
5	1.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



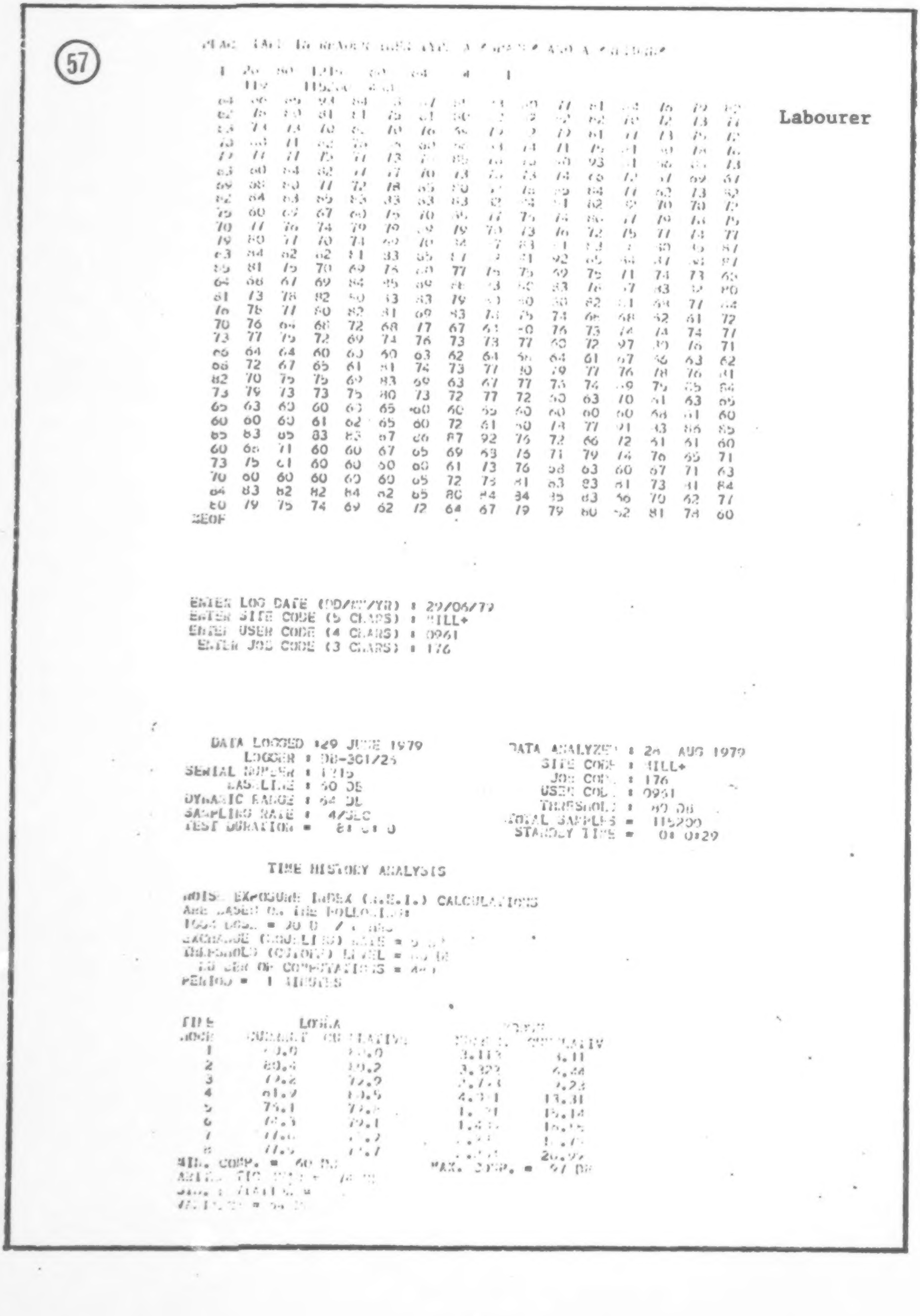
Number of computations = 480

(56)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30

(57)

Labourer



```
70  76  64  68  72  68  77  67  61  60  76  73  74  74  74  72
73  77  75  72  69  74  76  73  73  77  60  72  97  80  76  71
66  64  64  60  60  60  63  62  64  56  64  61  67  56  63  62
68  72  67  65  61  81  74  73  77  80  79  77  76  78  76  81
82  70  75  75  69  83  69  63  67  77  73  74  69  75  65  84
73  79  73  73  75  80  73  72  77  72  60  63  70  61  63  65
65  63  60  60  60  65  60  60  55  60  60  60  60  68  61  60
60  60  60  61  62  65  60  72  61  60  78  77  91  83  86  85
65  63  65  83  83  67  66  87  92  76  72  66  72  61  61  60
60  68  71  60  60  67  65  69  63  75  71  79  74  76  65  71
73  75  61  60  60  60  60  61  73  76  58  63  60  67  71  63
70  60  60  60  60  60  65  72  75  81  63  83  81  73  81  84
64  83  82  82  84  82  65  80  84  84  85  83  56  70  62  77
80  79  75  74  69  62  72  64  67  79  79  80  52  81  78  60
EOF


ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : HILL+
ENTER USER CODE (4 CHARS) : 0961
 ENTER JOB CODE (3 CHARS) : 176


   DATA LOGGED :29 JUNE 1979            DATA ANALYZED : 24 AUG 1979
        LOGGER : DB-301/25                  SITE CODE : HILL+
 SERIAL NUMBER : 1215                        JOB CODE : 176
      BASELINE : 50 DB                      USER CODE : 0961
 DYNAMIC RANGE : 64 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   0: 0:29

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
[illegible]
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1 HOURS

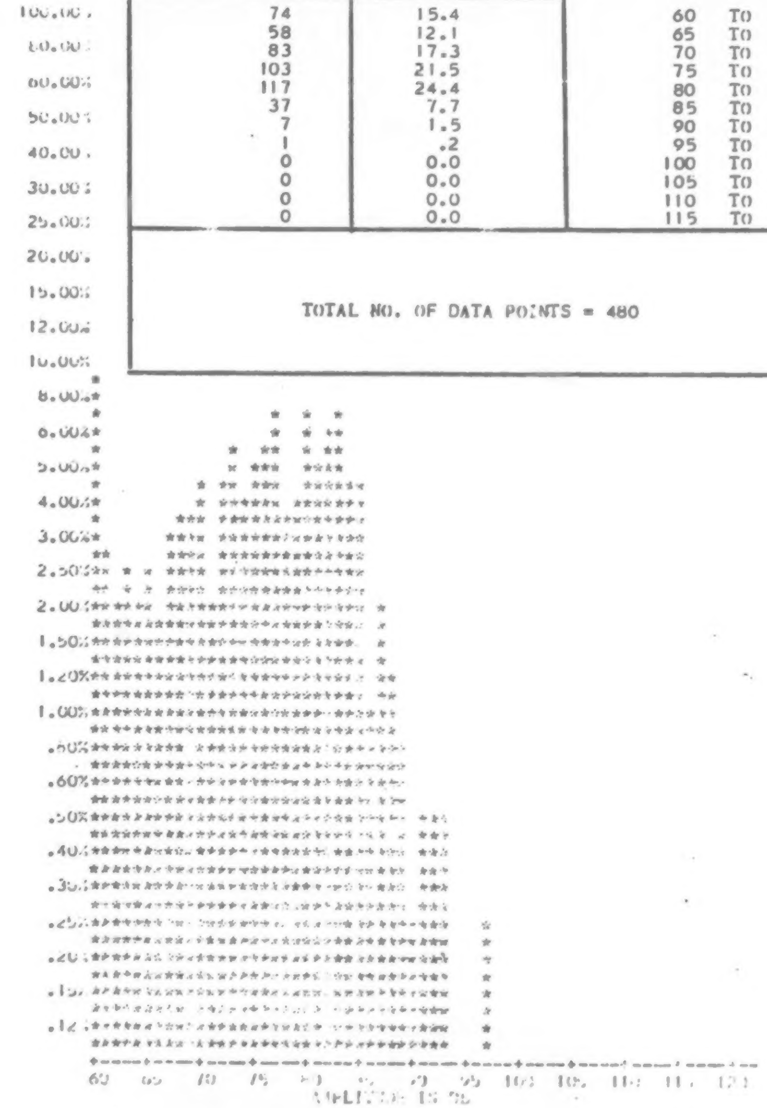
TIME          LOUDNESS                    N.E.I.
HOUR    CURRENT  CUMULATIVE      CURRENT    CUMULATIV
   1      [illegible]  [illegible]    3.113       3.11
   2      80.4     79.2           3.329       6.44
   3      [illegible]  [illegible]    [illegible]  [illegible]
   4      [illegible]  [illegible]    4.[illegible]   13.31
   5      75.1     [illegible]    1.[illegible]   15.14
   6      [illegible]  79.1        1.4[illegible]  [illegible]
   7      [illegible]  [illegible]    [illegible]  [illegible]
   8      [illegible]  [illegible]    [illegible]  20.9[illegible]
MIN. COMP. =  60 DB              MAX. COMP. =  97 DB
[illegible]
```

57

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
74	15.4	60 TO 64
58	12.1	65 TO 69
83	17.3	70 TO 74
103	21.5	75 TO 79
117	24.4	80 TO 84
37	7.7	85 TO 89
7	1.5	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

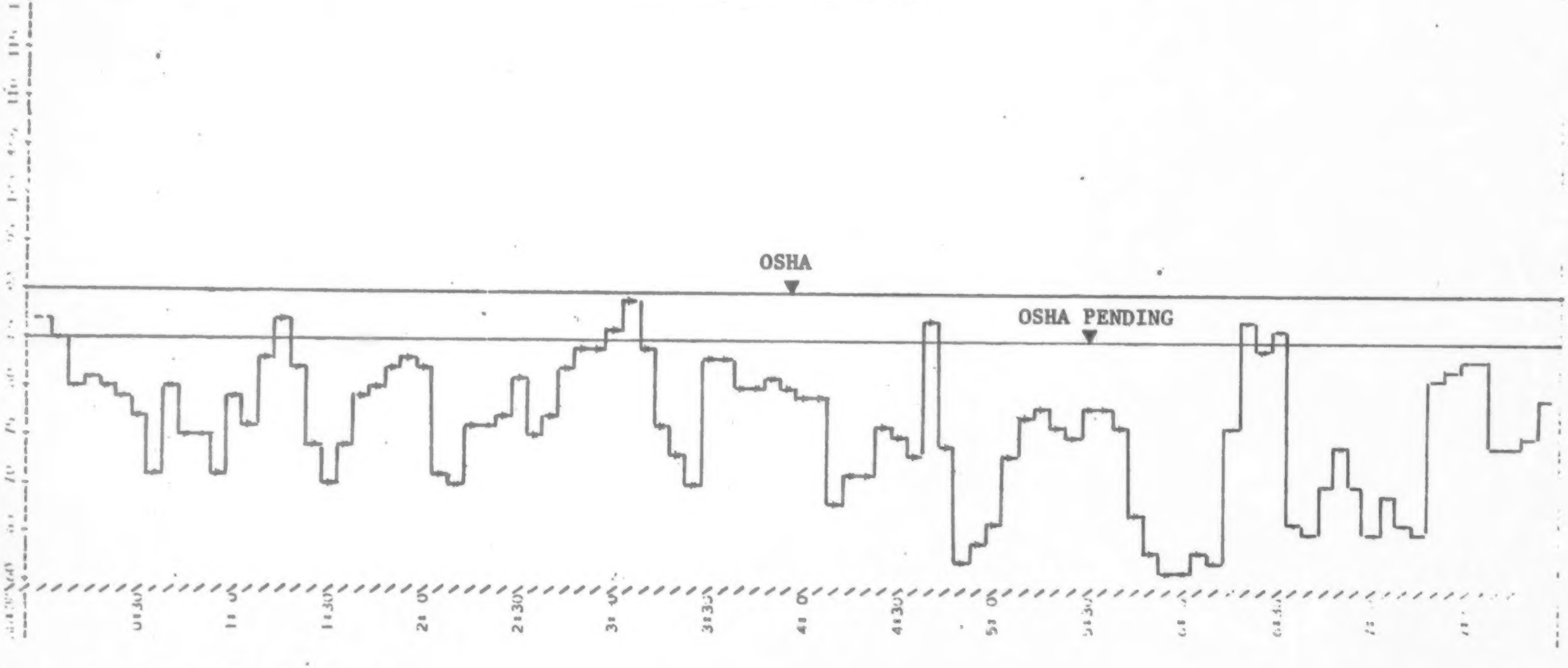
TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

(57)

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(58)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]
  1  .6  60  1221   60   64    2     1
    4.333      92449   3.5
   81  81  81  81  81  81  81  81  81  81  81  81  81  81  81  81
   81  85  86  84  85  86  85  85  84  83  77  73  79  79  [illegible]  70
   80  73  70  87  82  [illegible]  77  [illegible]  [illegible]  [illegible]  7[illegible]  [illegible]  [illegible]  7[illegible]  [illegible]  5
   82  82  82  82  81  83  84  85  --  80  86  85  85  87  82  87
   86  86  86  86  85  84  84  85  85  85  85  85  84  85  85  85
   85  87  84  84  84  85  85  84  85  84  82  85  85  84  85  85
   85  85  85  84  85  85  85  85  85  85  85  85  85  85  85  85
   85  85  86  87  86  85  85  84  85  84  85  85  85  84  85  85
   68  92  66  70  64  60  75  82  85  85  83  67  66  60  61  60
   65  64  65  64  63  62  65  61  65  60  60  65  [illegible]  62  63  63
   62  65  63  72  65  65  66  62  63  67  62  68  65  64  62  63
   68  64  69  65  65  66  74  72  73  80  80  84  84  85  86  83
   83  84  85  85  85  84  85  85  87  87  86  85  86  85  85  85
   85  85  86  85  85  86  86  87  88  87  86  87  87  83  86  85
   78  69  71  81  86  86  85  85  85  87  86  86  83  84  83  85
   86  83  83  82  83  84  83  83  83  83  84  84  81  81  81  79
   78  79  80  79  78  79  80  81  80  80  81  82  81  80  79  77
   78  78  81  81  83  85  80  79  80  82  83  83  83  83  80  76
   81  82  82  82  82  82  73  61  64  60  61  63  61  61  84  79
   75  74  78  75  75  74  76  80  79  75  71  77  86  86  84  85
   84  83  83  83  84  85  84  83  85  83  83  83  84  84  81  82
   82  84  82  82  83  85  85  83  82  83  84  81  82  83  83  84
   84  81  84  80  82  79  79  78  64  82  80  72  77  81  73  73
   61  65  60  60  64  60  60  60  60  65  68  60  60  57  60  60
   69  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
   60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 19/05/79

ENTER SITE CODE (5 CHARS) : MILL*
ENTER USER CODE (4 CHARS) : 0197

 ENTER JOB CODE (3 CHARS) : 011

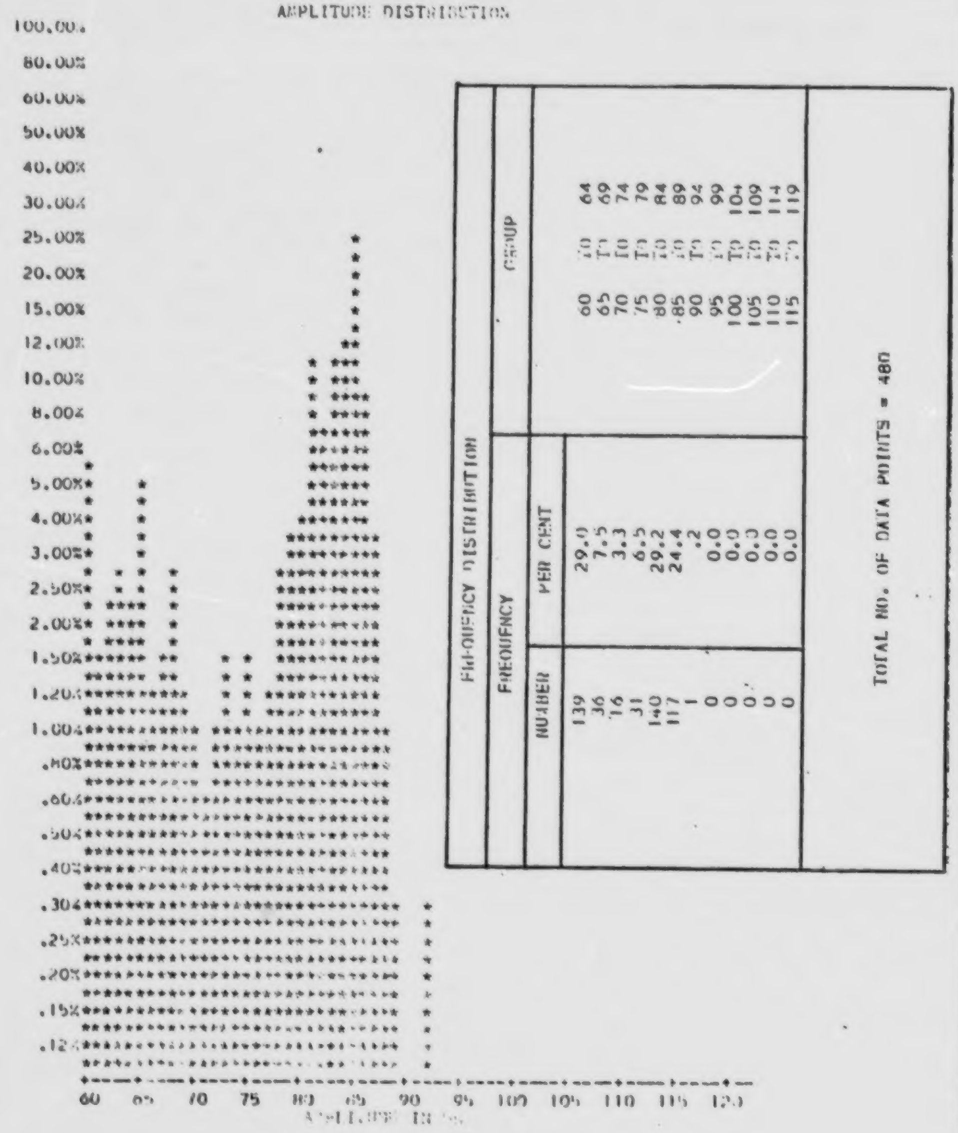

    DATA LOGGED :19 JUNE 1979            DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/26                   SITE CODE : MILL*
  SERIAL NUMBER : 1221                         JOB CODE : 011
       BASELINE : 60 DB                       USER CODE : 0197
  DYNAMIC RANGE : 54 DB                       THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                TOTAL SAMPLES =   92449
  TEST DURATION =    6:25:12             STANDBY TIME =   0:18: 3

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 385
PERIOD =  1 HOURS

TIME          LOSHA                         DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       81.1       81.1            3.764       3.76
   2       85.2       83.4            6.341      10.09
   3       76.4       81.4            1.[illegible]      11.96
   4       [illegible]       82.5            [illegible]      17.[illegible]
   5       83.7       82.2            3.[illegible]1      21.[illegible]3
   6       82.0       82.2            4.113      25.34
   7       79.9       81.3             .3[illegible]      25.71
MIN. [illegible] = 60 DB                [illegible] = [illegible]
ARITHMETIC MEAN = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

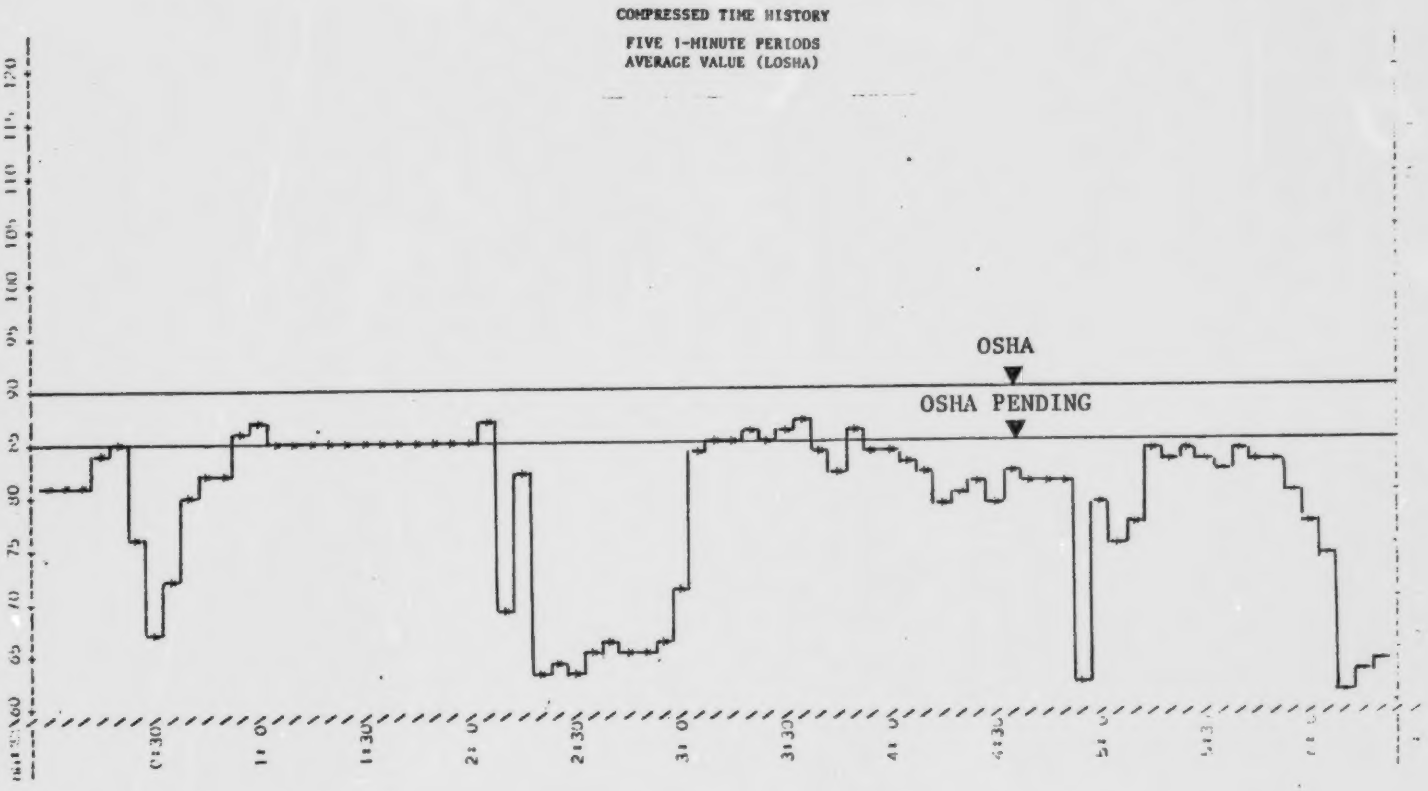
(58)



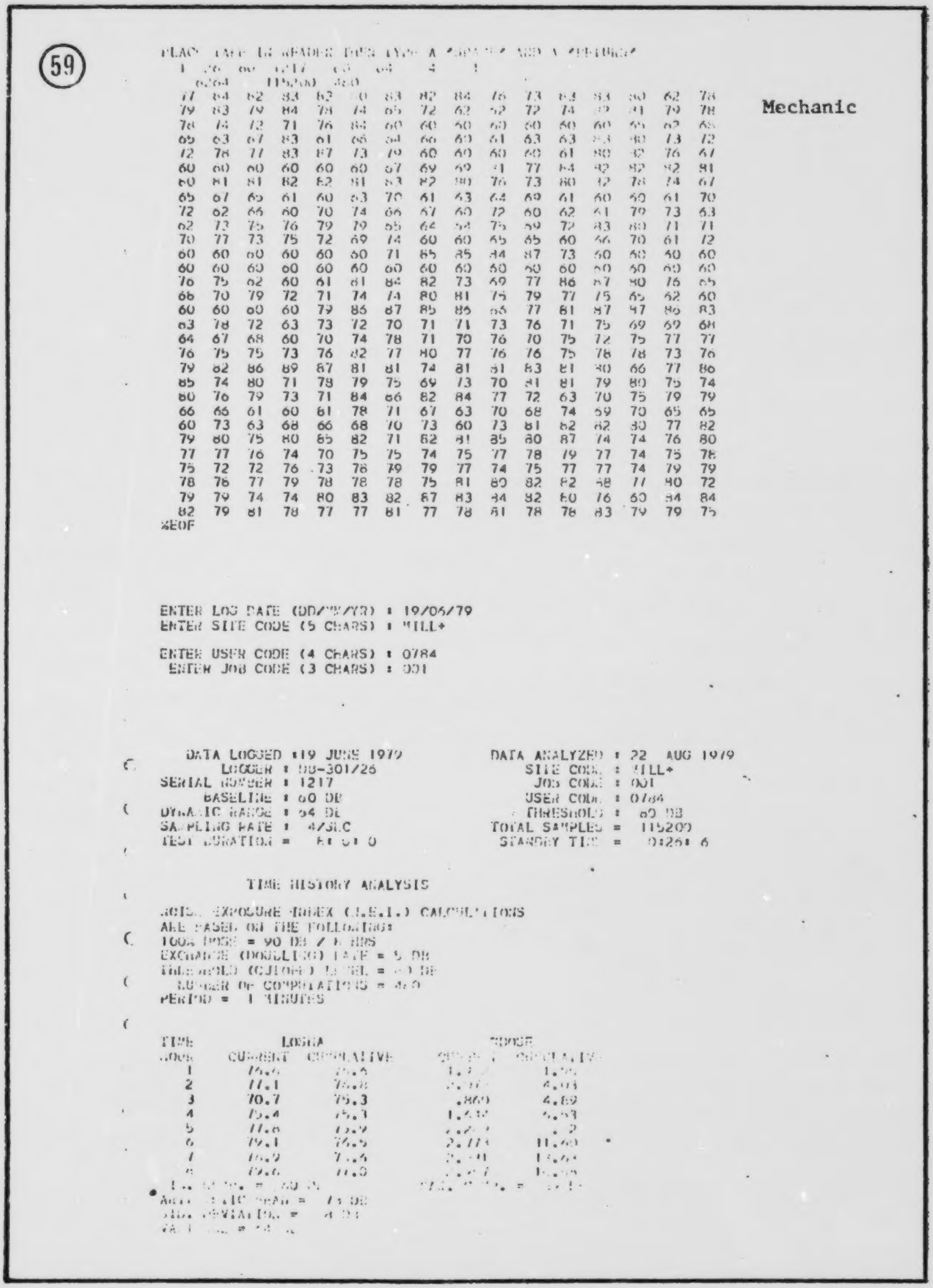
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
139	29.0	60 TO 64
36	7.5	65 TO 69
16	3.3	70 TO 74
31	6.5	75 TO 79
140	29.2	80 TO 84
117	24.4	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 385


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0

58



⑤⑨

Mechanic

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  06  1217   60   64    4    1
    0264      115200  480
  77  84  82  83  82  80  83  82  84  76  73  83  83  80  62  78
  79  83  79  84  78  74  65  72  62  62  72  74  [illegible]  81  79  78
  78  74  72  71  76  84  60  60  60  60  60  60  60  65  62  65
  65  63  67  83  61  66  64  66  60  61  63  63  83  80  73  72
  72  78  77  83  87  73  79  60  60  60  60  61  80  82  76  67
  60  60  60  60  60  60  67  69  69  81  77  84  82  82  82  81
  60  81  81  82  82  81  83  82  80  76  73  80  82  78  74  67
  65  67  65  61  60  63  70  61  63  64  69  61  60  60  61  70
  72  62  66  60  70  74  66  67  60  72  60  62  61  70  73  63
  62  73  75  76  79  79  65  64  54  75  59  72  83  80  71  71
  70  77  73  75  72  69  74  60  60  65  65  60  66  70  61  72
  60  60  60  60  60  60  71  85  85  84  87  73  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  76  75  62  60  61  61  84  82  73  69  77  86  87  80  76  65
  66  70  79  72  71  74  74  80  81  75  79  77  75  65  62  60
  60  60  60  60  79  86  87  85  85  65  77  81  87  87  86  83
  63  78  72  63  73  72  70  71  71  73  76  71  75  69  69  68
  64  67  68  60  70  74  78  71  70  76  70  75  72  75  77  77
  76  75  75  73  76  82  77  80  77  76  76  75  78  78  73  76
  79  82  86  89  87  81  81  74  81  81  83  81  80  66  77  80
  85  74  80  71  78  79  75  69  73  70  81  81  79  80  75  74
  80  76  79  73  71  84  66  82  84  77  72  63  70  75  79  79
  66  66  61  60  61  78  71  67  63  70  68  74  59  70  65  65
  60  73  63  68  66  68  70  73  60  73  81  82  82  80  77  82
  79  80  75  80  85  82  71  82  81  85  80  87  74  74  76  80
  77  77  76  74  70  75  75  74  75  77  78  79  77  74  75  78
  75  72  72  76 .73  78  79  79  77  74  75  77  77  74  79  79
  78  78  77  79  78  78  78  75  81  80  82  82  58  77  80  72
  79  79  74  74  80  83  82  87  83  84  82  80  76  60  84  84
  82  79  81  78  77  77  81  77  78  81  78  78  83  79  79  75
%EOF



ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0784
 ENTER JOB CODE (3 CHARS) : 001



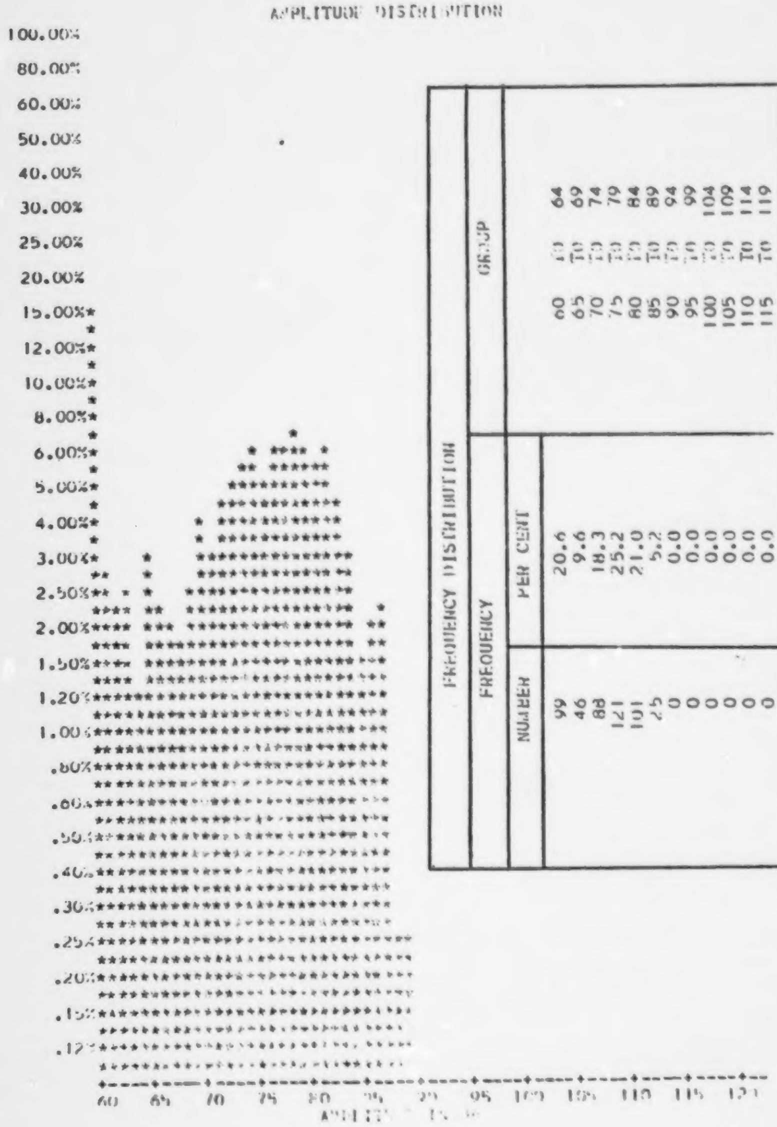
   DATA LOGGED :19 JUNE 1979            DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                   SITE CODE : MILL+
 SERIAL NUMBER : 1217                         JOB CODE : 001
      BASELINE : 60 DB                       USER CODE : 0784
 DYNAMIC RANGE : 54 DB                       THRESHOLD :  60 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =   0:26: 6

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME         LOGUA                      DOSE
HOUR    CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
   1       76.6       75.6        1.[illegible]        1.[illegible]
   2       77.1       76.8        [illegible]       4.03
   3       70.7       75.3         .869        4.89
   4       75.4       75.3        1.[illegible]        6.53
   5       77.6       75.9        [illegible]       [illegible]
   6       79.1       76.5        2.773       11.60
   7       76.9       7[illegible].6        [illegible]       13.6[illegible]
   8       79.6       77.0        [illegible]       [illegible]
 [illegible] = [illegible]              [illegible] = [illegible]
ARITHMETIC MEAN = 7[illegible] DB
STD. DEVIATION =  4 DB
[illegible]
```

(59)



AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

GROUP	FREQUENCY NUMBER	FREQUENCY PER CENT
60 TO 64	99	20.6
65 TO 69	46	9.6
70 TO 74	88	18.3
75 TO 79	121	25.2
80 TO 84	101	21.0
85 TO 89	25	5.2
90 TO 94	0	0.0
95 TO 99	0	0.0
100 TO 104	0	0.0
105 TO 109	0	0.0
110 TO 114	0	0.0
115 TO 119	0	0.0

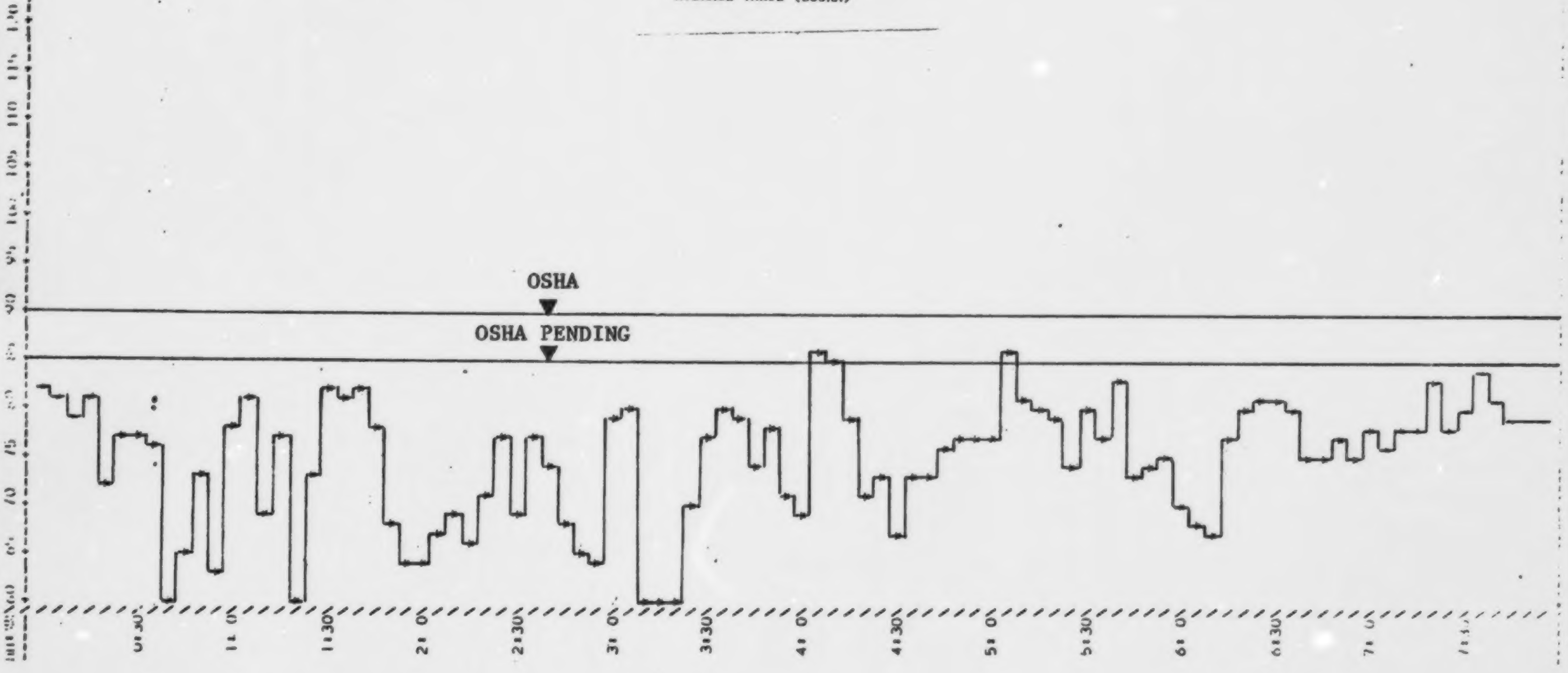
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(59)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(60)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1225   60   64    4    1
    7315      115200  480
   82   82   87   85   80   85   82   84   82   81   75   83   84   83   82   86
   85   84   60   60   60   60   62   70   73   83   91   66   61   77   79   66
   87   83   88   89   87   87   84   77   77   81   74   81   78   81   77   77
   82   85   84   79   81   83   82   83   [illegible] [illegible]   82   83   [illegible]   82   83   83
   83   83   84   85   83   82   84   83   [illegible]   85   84   85   84   74   77   78
   82   83   84   79   80   83   77   71   79   85   83   84   76   81   82   84
   84   84   84   84   83   84   83   84   85   84   84   83   83   82   83   83
   82   82   83   84   83   82   83   82   83   83   83   83   82   82   70   70
   66   61   63   78   63   69   71   70   67   74   84   87   68   67   89   68
   78   73   75   78   74   71   77   76   79   75   74   76   78   77   76   68
   69   75   73   77   75   75   74   68   71   75   77   66   76   68   64   76
   83   82   84   82   83   83   83   83   83   83   83   82   82   81   82   82
   82   82   81   82   82   82   82   84   83   75   81   82   83   83   83   73
   60   79   81   81   77   81   84   83   84   87   85   77   65   87   89   78
   70   97   82   84   74   77   69   66   64   63   64   62   65   73   65   65
   67   85   80   82   87   87   85   85   66   67   76   85   68   70   71   77
   77   84   77   80   83   75   83   62   70   69   69   67   67   70   71   72
   72   69   68   73   60   70   70   63   62   75   68   71   67   74   71   72
   71   73   75   75   71   75   73   71   75   66   73   74   72   71   75   73
   77   73   74   79   80   73   79   66   77   74   60   60   60   60   60   65
   60   61   60   60   63   60   74   83   80   79   89   95   85   85   93   93
   91   69   88   90   74   66   70   83   83   84   84   78   75   71   74   73
   73   78   84   79   82   82   83   83   82   82   83   83   82   82   76   74
   76   60   61   82   80   74   61   60   61   63   70   79   80   80   80   85
   80   63   84   84   60   62   67   81   72   60   62   79   82   86   84   83
   84   84   86   86   85   86   85   84   85   83   80   77   81   84   82   79
   75   78   77   79   64   66   79   79   82   86   85   82   81   71   73   73
   72   70   67   70   74   76   74   75   75   73   76   73   75   83   86   85
   81   83   73   70   80   81   77   75   82   83   79   76   78   87   88   87
   88   87   86   88   87   80   82   82   80   80   82   71   61   62   70   62
*EOF



ENTER LOG DATE (DD/MM/YR) : 19/06/79

ENTER SITE CODE (5 CHARS) : VILL+
ENTER USER CODE (4 CHARS) : 0213
 ENTER JOB CODE (3 CHARS) : 011



    DATA LOGGED :19 JUNE 1979                 DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/25                        SITE CODE : VILL+
  SERIAL NUMBER : 1225                              JOB CODE : 011
       BASELINE : 60 DB                            USER CODE : 0213
  DYNAMIC RANGE : 64 DB                            THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                       TOTAL SAMPLES =  115200
  TEST DURATION =  [illegible] : 0              STANDBY TIME =   3:30:28

          TIME HISTORY ANALYSIS

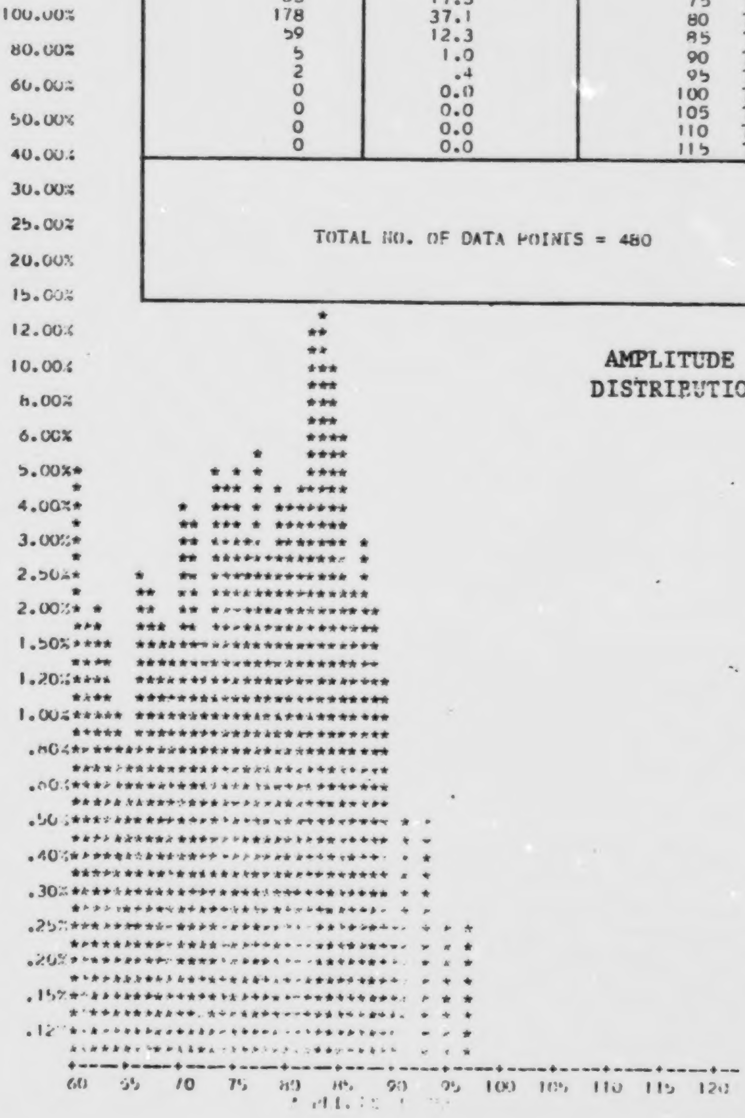
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           LOSHA                       DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIV
   1       82.4       82.4            [illegible]      4.33
   2       82.7       82.5            [illegible]      8.89
   3       77.6       81.3            [illegible]     11.20
   4       81.9       81.4            [illegible]     15.26
   5       77.1       80.8            [illegible]     17.35
   6       81.5       80.9            [illegible]     21.1[illegible]
   7       80.3       80.8            [illegible]     24.46
   8       80.4       80.8            [illegible]     27.76
EQ. COMP. =  80.[illegible]              TOT. COMP. =  97.[illegible]
ARITHMETIC MEAN =  77.[illegible]
STD. DEVIATION =  [illegible]
VARIANCE = 61.[illegible]
```

⑥⓪

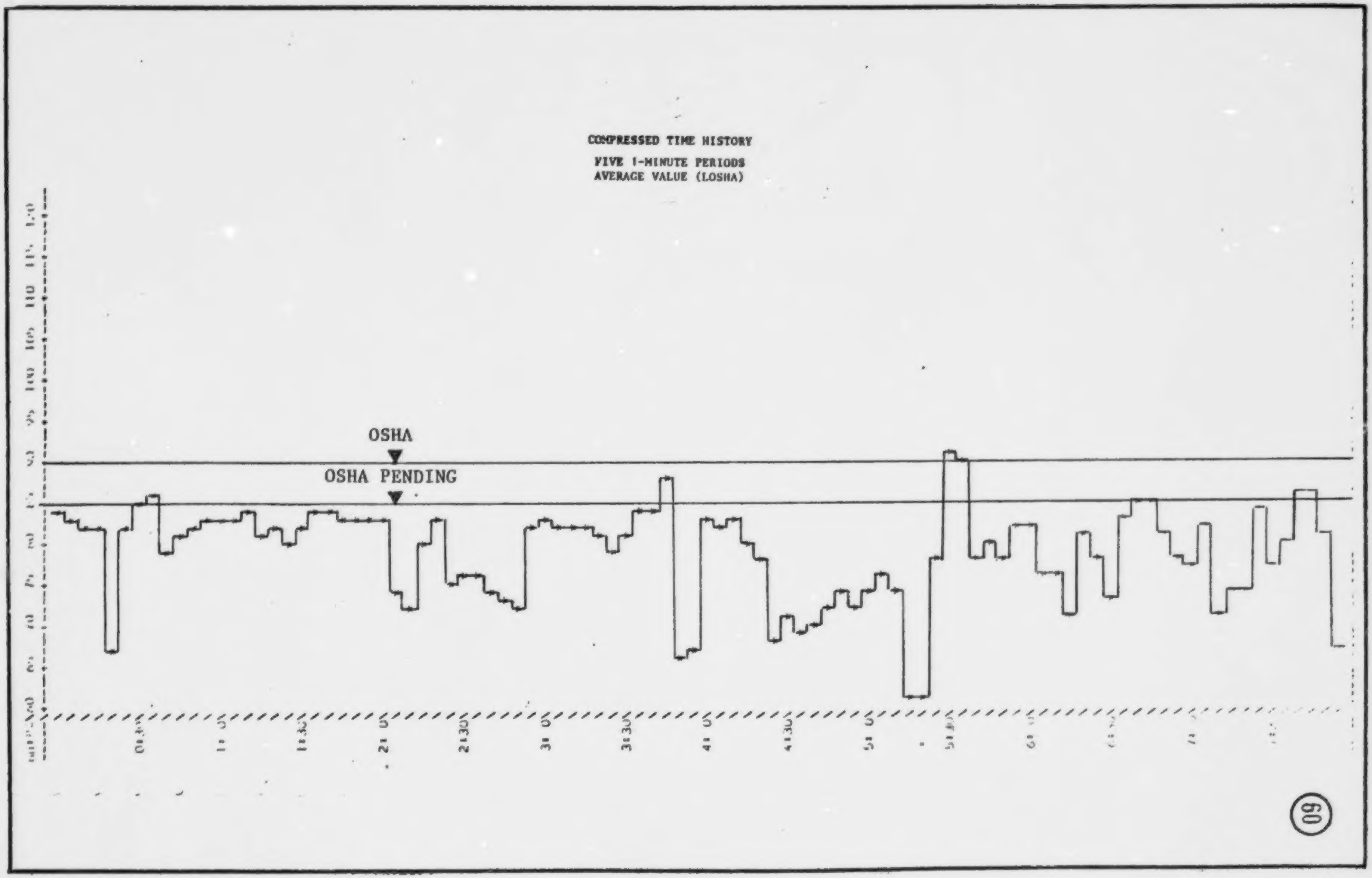
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
44	9.2	60 TO 64
35	7.3	65 TO 69
74	15.4	70 TO 74
83	17.3	75 TO 79
178	37.1	80 TO 84
59	12.3	85 TO 89
5	1.0	90 TO 94
2	.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0

(60)

(61)

Mechanic

```
PLACE TAPE IN READER [illegible]
 1  26  60  1220  [illegible]  64   4   1
   [illegible]    115200  [illegible]
 76  85  78  76  [illegible] [illegible] 64  88  [illegible] 76  70  80  86  [illegible] 84  87
 68  75  75  83  85  87  66  87  [illegible] 84  86  87  86  81  76  75
 61  70  74  70  71  72  73  [illegible] [illegible] [illegible] 84  85  85  84  84  84
 83  84  65  85  85  [illegible] 84  84  [illegible] 84  [illegible] 84  [illegible] 81  83  85
 [illegible] 61  62  71  72  [illegible] [illegible] 81  [illegible] [illegible] [illegible] 74  69  76  84  85
 84  84  84  84  82  80  85  89  83  78  74  71  75  86  91  93
 69  90  91  91  88  91  76  73  74  70  82  81  83  80  82  82
 74  64  73  78  76  78  73  75  79  81  76  79  81  80  90  69
 60  60  71  79  85  84  84  84  83  83  84  85  85  84  83  83
 83  64  84  84  84  84  84  84  83  84  85  84  85  86  86  87
 85  87  66  84  81  85  61  82  [illegible] 83  83  76  75  79  93  80
 81  81  76  82  85  81  80  71  6[illegible] 62  81  60  80  79  84  83
 60  85  77  80  77  75  67  82  83  86  86  84  84  87  83  83
 63  64  78  77  73  77  74  83  94  84  84  83  86  86  82  76
 80  78  81  80  82  82  84  87  87  86  85  86  86  90  89  89
 88  89  88  85  85  88  58  88  83  62  79  81  67  70  76  83
 80  77  60  61  63  69  65  60  65  66  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  61  71  73  70  74  76  71  84
 67  80  83  84  85  85  90  91  91  90  91  90  90  90  87  80
 65  65  70  65  60  67  61  60  60  60  60  65  61  67  63  60
 60  65  60  60  69  62  88  86  63  87  90  87  78  95  87  87
 67  85  86  87  88  87  88  86  87  88  87  88  87  86  87  87
 67  87  98  87  90  85  83  86  81  86  75  64  65  62  82  81
 75  80  74  73  77  81  83  84  82  83  83  79  60  60  60  65
 65  61  92  90  94  91  75  81  81  81  84  85  86  85  84  85
 85  86  85  84  84  87  86  85  85  84  86  85  85  85  85  84
 86  85  85  82  79  82  85  77  72  72  81  81  80  81  79  77
 86  84  86  85  84  82  80  84  85  84  83  85  84  82  81  85
 64  82  82  82  80  82  81  81  81  81  78  69  84  82  82  81
*EOF


ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 3478
 ENTER JOB CODE (3 CHARS) : 001


   DATA LOGGED :19 JUNE 1979              DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/25                    SITE CODE : MILL+
 SERIAL NUMBER : 1220                          JOB CODE : 001
      BASELINE : 60 DB                        USER CODE : 3478
 DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                 STANDBY TIME =   0:29:10

          TIME HISTORY ANALYSIS

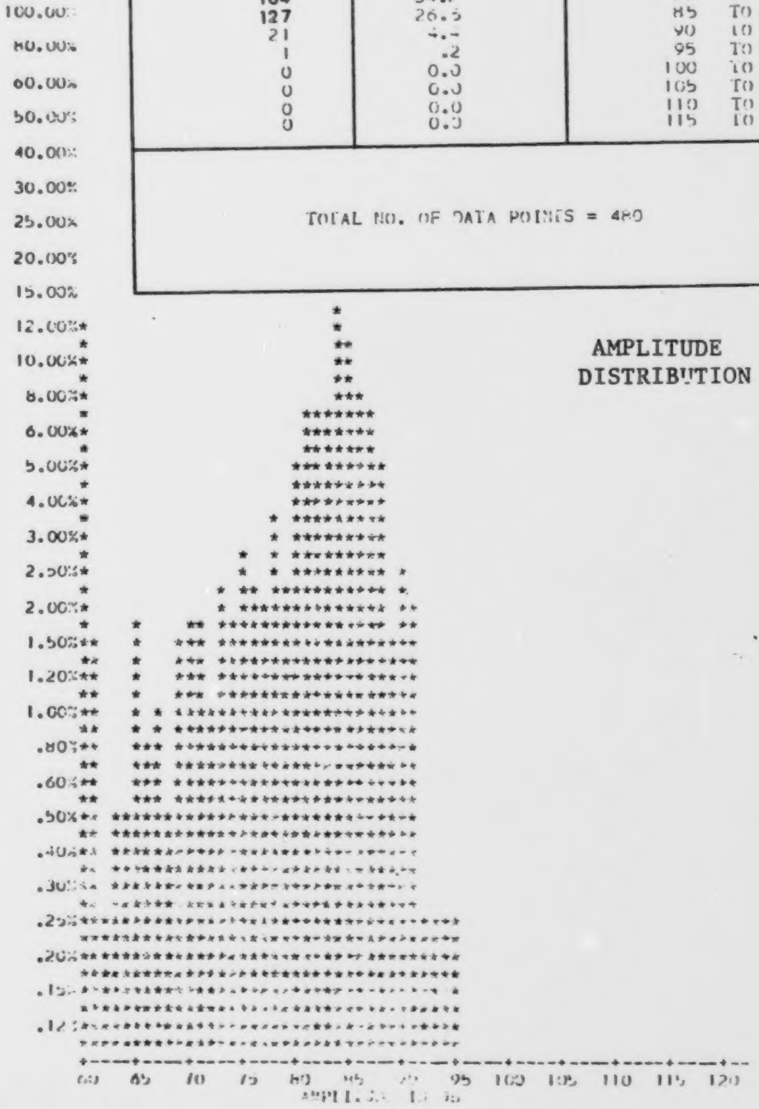
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                          %DOSE
HOUR    CURRENT  CUMULATIVE          CURRENT   CUMULATIVE
  1       83.1      83.1              4.770       4.77
  2       83.0      83.0              4.753       9.52
  3       82.6      82.9              4.497      14.02
  4       82.6      82.8              4.455      18.48
  5       76.2      81.9              1.849      20.33
  6       84.6      82.4              5.915      26.24
  7       84.1      82.7              [illegible]      31.73
  8       83.0      82.7              4.71[illegible]      36.4[illegible]
MIN. COMP. =  60 DB                  MAX. COMP. =  95 DB
ARITHMETIC MEAN =  7[illegible]
STD. DEVIATION =  7 [illegible]
VARIANCE = 81 DB
```

61

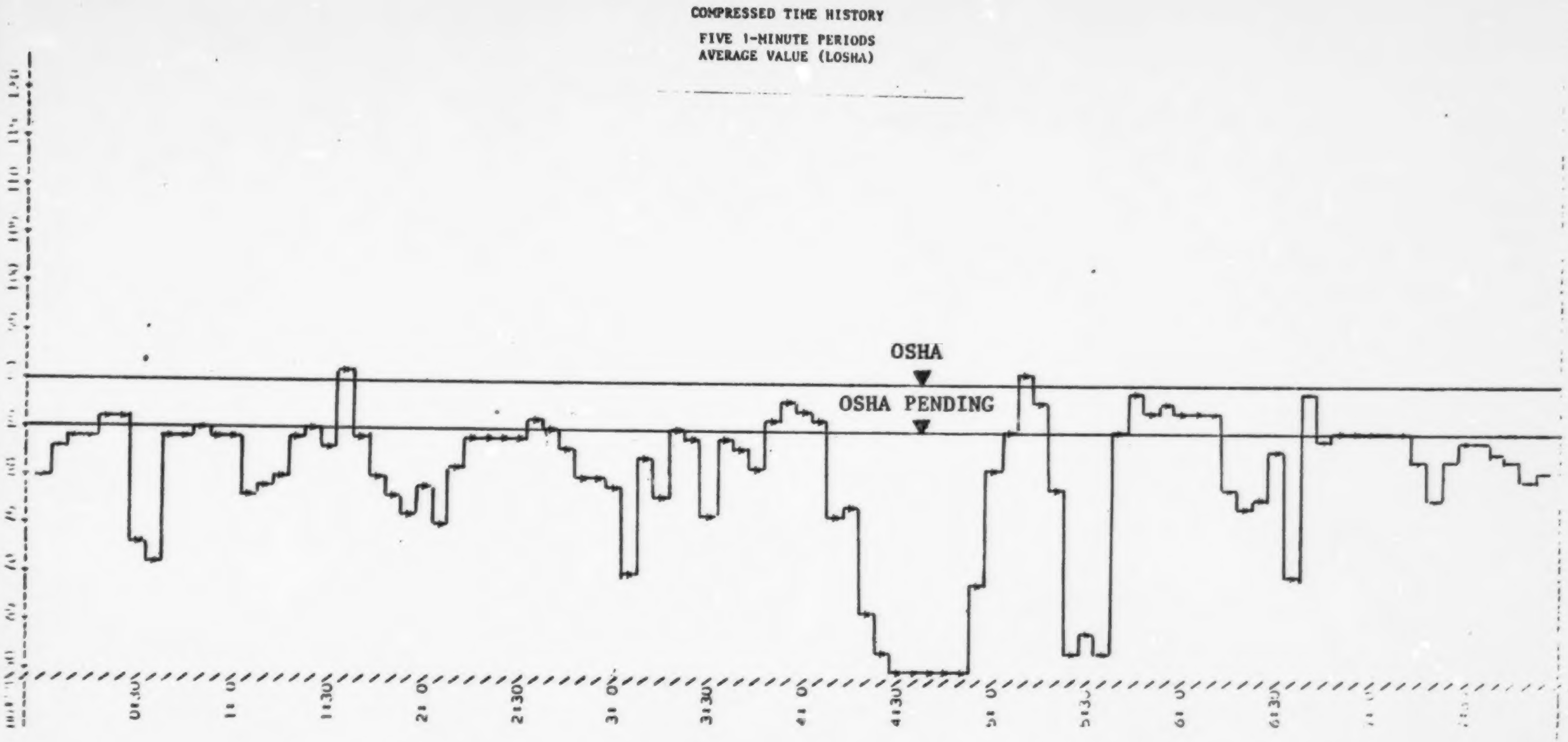
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
60	12.5	60 TO 64
22	4.5	65 TO 69
34	7.1	70 TO 74
51	10.6	75 TO 79
164	34.2	80 TO 84
127	26.5	85 TO 89
21	4.4	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480


AMPLITUDE DISTRIBUTION

Number of computations = 480

(61)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30

(62)

Mechanic

```
[illegible]
 1  60  60  1212  [illegible]  64   4   1
  1-473     115200  2.0
 81  82  84  88  87  87  85  81  [illegible]  88  [illegible]  75  82  81  [illegible]  85
 83  82  87  85  87  81  86  90  [illegible]  84  83  84  85  [illegible]  [illegible]  91
 86  86  [illegible]  87  93  86  87  [illegible]  [illegible]  85  84  [illegible]  82  [illegible]  81  86
 85  87  [illegible]  84  85  82  81  81  82  84  [illegible]  [illegible]  [illegible]  [illegible]  83  83
 83  84  84  82  82  83  81  81  75  72  73  76  82  87  75  72
 85  84  84  86  86  84  84  85  85  86  85  86  84  84  84  84
 86  87  86  85  84  84  85  86  85  85  84  88  85  86  84  84
 84  86  84  85  85  84  85  84  83  84  83  83  83  83  84  82
 82  84, 83  84  83  84  83  83  83  87  84  87  86  78  74  83
 83  82  84  85  83  85  83  84  84  87  87  87  86  87  [illegible]  73
 78  77  81  81  81  80  78  71  74  76  78  80  78  75  75  81
 74  79  81  84  83  85  85  85  83  83  83  85  86  83  84  84
 84  87  84  87  86  86  86  85  85  85  85  86  86  86  84  85
 85  84  84  86  74  77  81  82  84  83  82  84  77  79  83  84
 85  85  85  88  86  85  88  85  81  80  80  82  81  81  81  84
 86  85  83  84  87  86  80  79  82  83  83  80  86  76  71  63
 77  71  83  69  74  80  68  65  60  63  62  62  65  81  [illegible]  82
 80  68  73  70  71  74  69  74  72  73  73  67  72  73  65  64
 73  74  72  70  75  70  72  72  75  75  74  76  73  74  74  68
 75  72  74  72  72  73  74  75  75  73  75  71  76  80  66  65
 80  85  88  89  84  83  84  85  84  87  85  88  83  83  84  84
 83  79  83  86  83  85  86 · 85  80  85  87  86  87  86  84  86
 85  84  86  84  87  85  83  67  64  83  86  87  88  78  76  80
 60  60  62  83  84  85  85  83  84  76  69  67  60  64  85  82
 84  85  87  79  61  77  66  84  87  85  68  66  61  63  83  85
 60  76  84  84  84  83  82  82  84  85  88  82  85  37  86  82
 83  85  83  86  84  83  84  85  84  81  72  ,79  79  76  68  72
 85  85  85  91  79  76  80  81  73  79  73  79  79  80  76  79
 74 ·80  71  76  80  78  74  62  70  73  76  80  84 . 87  88  65
 85  86  91  82  81  80  80  71  75  82  82  79  80  80  83  78
*EOF


ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0470
 ENTER JOB CODE (3 CHARS) : 001


     DATA LOGGED :19 JUNE 1979             DATA ANALYZED : 22  AUG 1979
          LOGGER : DB-301/25                   SITE CODE : MILL+
   SERIAL NUMBER : 1212                         JOB CODE : 001
        BASELINE : 60 DB                       USER CODE : 0470
   DYNAMIC RANGE : 64 DB                       THRESHOLD : [illegible] DB
   SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
   TEST DURATION =    8: 0: 0               STANDBY TIME =    1: 4:28

            TIME HISTORY ANALYSIS

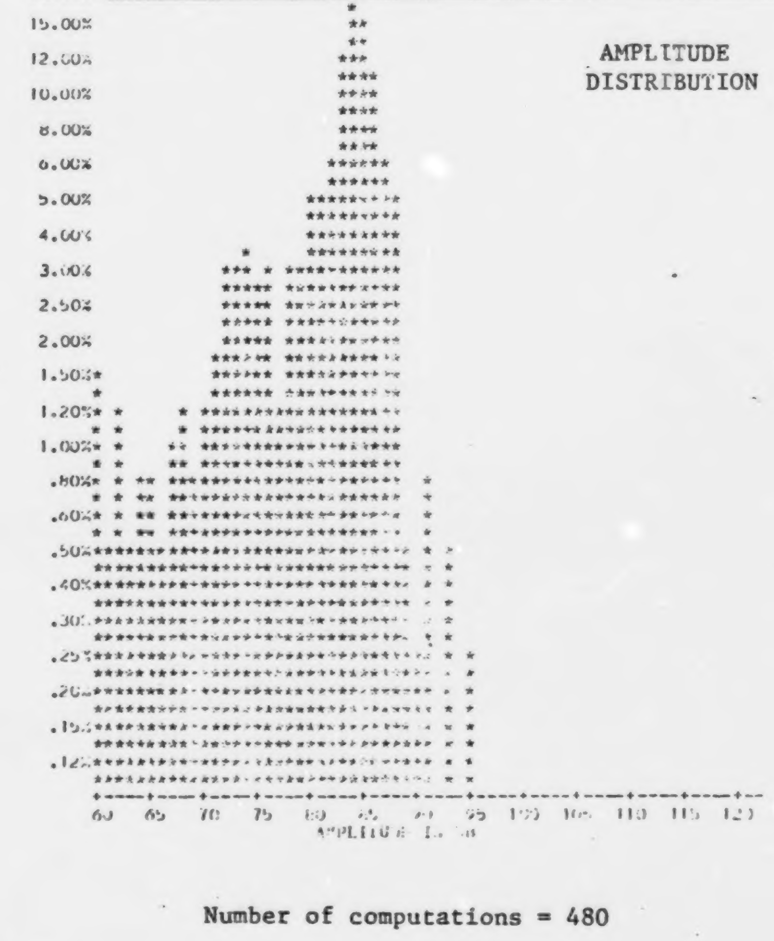
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible] DB
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1  MINUTES


TIME            LOSHA                       DOSE
HOUR     CURRENT   CUMULATIVE       CURRENT   CUMULATIVE
   1       86.0       86.0           7.22        7.22
   2       83.9       85.0           5.35[illegible]  12.58
   3       82.6       84.3           4.5[illegible]   17.0[illegible]
   4       84.3       84.3           5.634       22.72
   5       77.8       83.4           2.294       25.01
   6       [illegible]  83.3         [illegible]  [illegible]
   7       [illegible]  [illegible]  [illegible]  [illegible]
   8       81.[illegible]  83.[illegible]  [illegible]  37.6[illegible]
MIN. COMP. =  60 DB                  MAX. COMP. =  9[illegible] DB
[illegible]
[illegible]
[illegible]
```

(62)

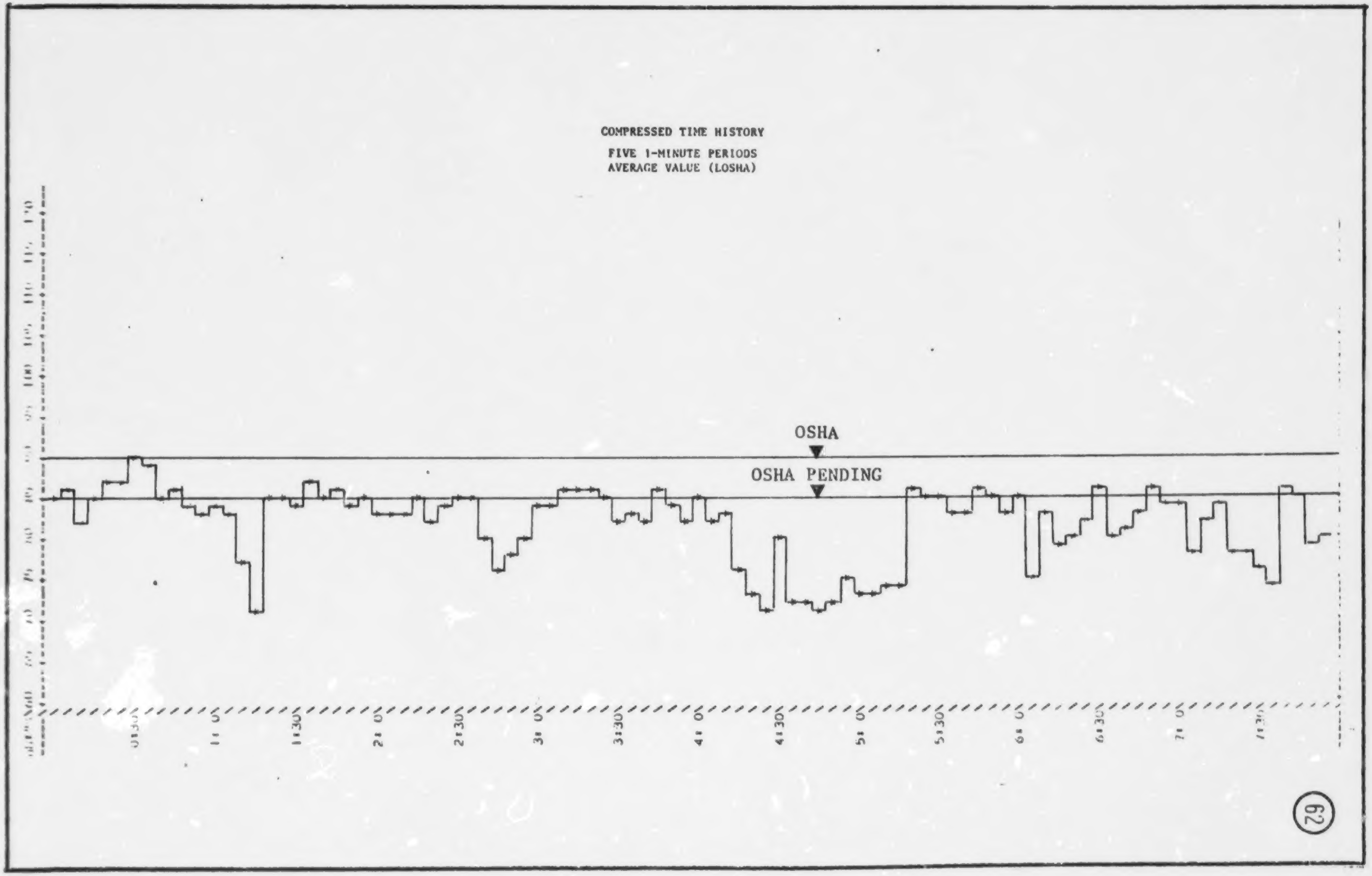
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
18	3.8	60 TO 64
17	3.5	65 TO 69
51	10.6	70 TO 74
52	10.8	75 TO 79
184	38.3	80 TO 84
151	31.5	85 TO 89
6	1.3	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:0
7:30

(62)

(63)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A '[illegible]' AND A '[illegible]'
 1  25  60  1222   60   64    4    1
  26062     115200  480
 79  72  81  75  63  60  60  [illegible]  67  62  60  61  69  69  77  73
 74  75  67  75  64  72  71  80  75  60  63  62  72  60  83  77
 60  76  75  60  66  68  60  60  66  73  70  66  74  70  67  60
 63  61  67  72  67  63  68  77  73  75  60  77  60  69  74  71
 76  60  81  70  60  67  66  60  63  60  60  61  68  76  73  76
 66  73  66  78  71  70  69  66  63  60  61  80  77  60  64  62
 73  73  66  71  60  60  64  70  64  64  60  60  60  60  60  62
 60  60  60  60  60  60  63  62  62  61  61  63  75  66  60  60
 60  60  63  64  65  60  60  60  60  60  60  60  60  60  60  62
 60  64  60  60  60  60  61  60  60  60  60  60  61  60  60  60
 60  60  67  69  61  60  60  60  61  60  60  60  64  60  68  75
 74  60  74  80  62  61  69  75  72  68  60  69  60  71  68  63
 60  60  66  66  60  67  75  80  80  76  75  70  74  68  60  62
 63  87  86  87  87  60  83  84  83  62  60  66  64  60  68  82
 84  86  86  85  70  64  80  85  85  85  84  85  87  82  60  75
 64  77  85  75  84  83  83  85  84  74  70  60  76  84  75  60
 60  60  60  60  60  60  60  60  65  60  60  60  60  64  72  71
 72  78  69  71  72  73  77  73  77  72  72  76  70  76  72  76
 73  71  80  74  75  75  76  77  79  78  60  60  60  72  60  60
 60  77  86  85  77  60  72  83  83  82  64  82  73  84  84  83
 85  84  82  66  60  76  66  65  81  81  80  80  83  84  84  80
 83  81  83  83  84  80  83  79  64  85  85  63  61  60  73  88
 87  85  60  85  85  86  83  76  82  60  86  84  84  85  80  78
 82  81  82  82  83  85  89  91  91  87  73  62  62  61  60  67
 62  65  69  80  80  78  81  81  81  76  60  60  60  60  72  86
 80  92  86  93  92  73  92  91  83  62  60  60  60  60  60  60
 61  61  60  60  60  60  60  60  60  60  60  60  60  64  77  72
 73  72  65  60  60  79  79  74  72  80  79  74  72  71  61  60
 60  60  60  60  60  60  63  64  70  69  64  62  70  66  78  69
 73  68  62  60  61  60  60  62  60  65  75  66  62  77  72  63
%EOF



ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 3402
 ENTER JOB CODE (3 CHARS) : 056



    DATA LOGGED :19 JUNE 1979              DATA ANALYZED : 22  AUG 1979
         LOGGER : DB-301/25                      SITE CODE : MILL+
  SERIAL NUMBER : 1222                            JOB CODE : 056
       BASELINE : 60 DB                          USER CODE : 3402
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  60 DB
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                   STANDBY TIME =   1:48:35

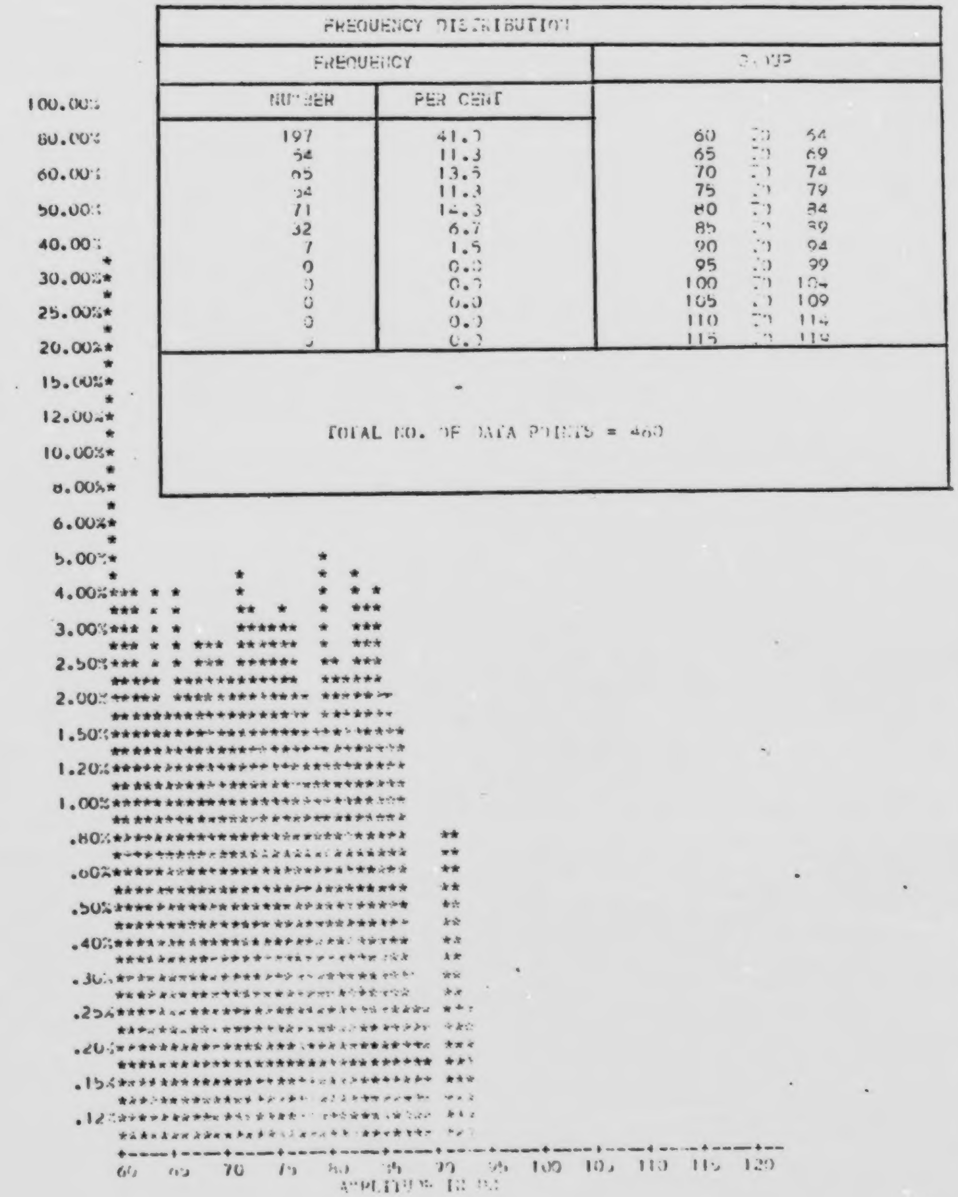
             TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME              LOSHA                        % DOSE
HOUR      CURRENT   CUMULATIVE         CURRENT     CUMULATIVE
   1        72.3       72.3             1.070         1.07
   2        66.8       70.7              .652         1.73
   3        65.0       69.3              .391         2.12
   4        78.7       73.[illegible]         .[illegible]          [illegible]
   5        75.0       73.4             1.[illegible]         6.2[illegible]
   6        81.1       7[illegible].4             3.[illegible]          [illegible]
   7        82.0       76.8             4.121        14.06
   8        69.4       75.2              .7[illegible]        14.7[illegible]
MIN. COMP. = 60 DB                      MAX. COMP. =  93 DB
ARITHMETIC MEAN =  70 DB
STD. DEVIATION =   [illegible]
VARIANCE = [illegible]
```

(63)

AMPLITUDE DISTRIBUTION

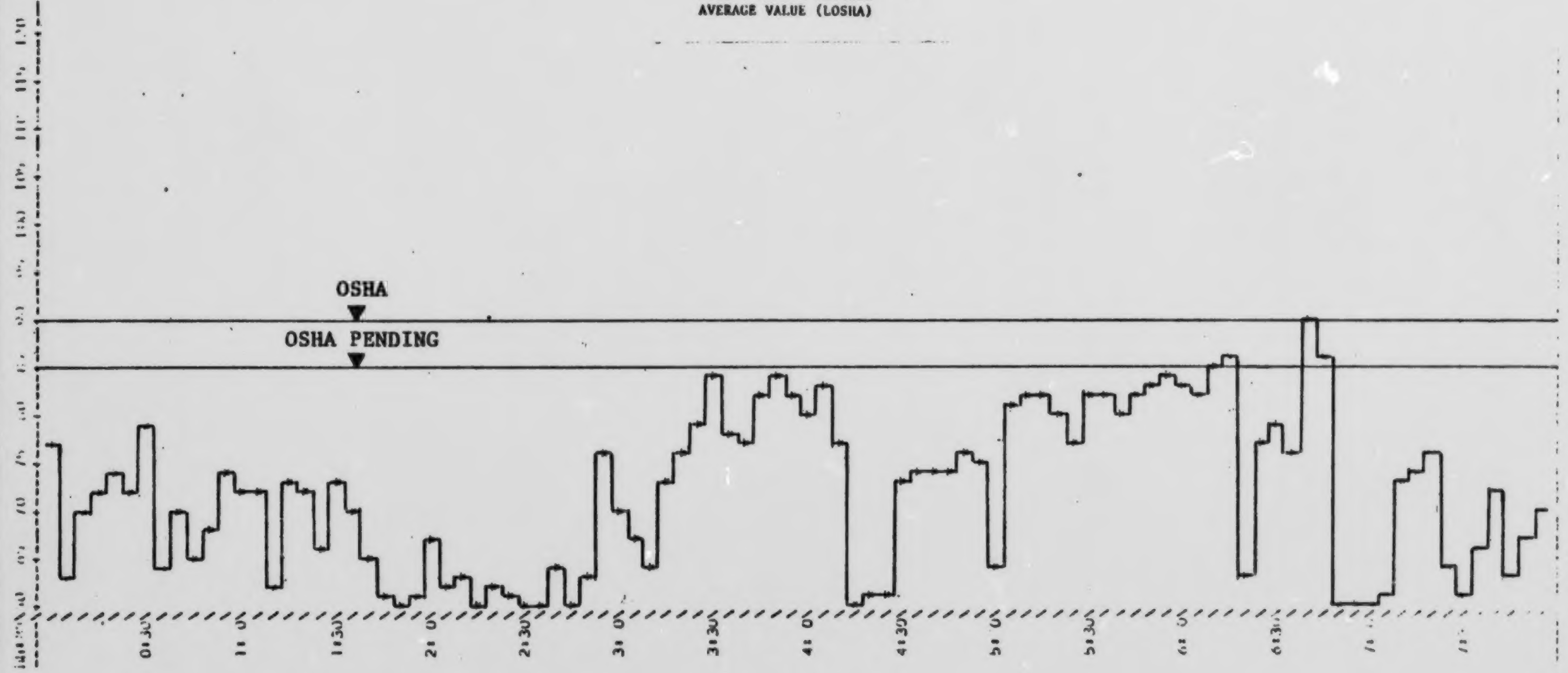


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
197	41.0	60 TO 64
54	11.3	65 TO 69
65	13.5	70 TO 74
54	11.3	75 TO 79
71	14.3	80 TO 84
32	6.7	85 TO 89
7	1.5	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(63)



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(64)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A '[illegible]' AND A 'RETURN'
 1  26  301  1224   60    64     4     1
  2.465     115200  480
  80  73  78  76  73  85  86  85  81  86  84  84  86  84  83  85
  84  84  87  86  85  84  84  84  84  83  84  85  86  85  85  83
  86  96  97  96  87  85  84  84  85  84  84  84  83  85  96  96
  94  86  93  85  85  77  82  85  85  86  86  86  87  87  87  86
  86  87  87  87  87  86  86  86  86  87  85  87  86  87  83  87
  90  87  83  85  85  86  82  74  85  76  80  75  81  83  79  82
  76  79  80  83  73  62  63  79  77  73  75  76  76  79  80  77
  79  76  80  86  85  85  87  85  86  86  86  84  84  84  85  85
  84  84  86  86  85  83  83  80  83  73  81  82  80  69  73  76
  83  83  85  83  84  85  87  87  87  87  86  85  71  75  67  62
  62  72  69  65  73  68  74  70  67  81  71  74  61  51  82  79
  84  83  85  84  83  84  83  83  82  84  83  84  85  84  86  95
  98  97  94  96  96  94  91  84  84  85  84  86  84  86  83  84
  84  83  87  90  83  83  84  84  84  82  83  83  82  83  83  84
  85  85  85  83  84  83  84  83  84  83  83  83  84  82  83  87
  86  85  84  84  87  88  86  85  84  84  83  71  82  86  83  85
  87  86  86  82  60  65  51  61  75  45  86  85  85  86  86  80
  85  86  86  86  86  86  85  85  85  84  85  84  85  85  84  85
  84  85  84  85  85  84  85  85  85  85  85  85  84  85  84  85
  85  85  85  84  85  85  85  85  85  86  85  84  86  85  85  87
  87  84  82  84  83  89  87  85  85  86  87  88  87  86  87  86
  87  85  86  86  87  87  87  87  87  88  88  87  87  87  88  84
  85  87  78  69  69  82  86  87  86  85  85  84  84  84  84  84
  84  85  85  84  82  82  83  85  86  85  87  85  86  84  85  85
  85  83  83  84  85  84  84  85  83  83  83  83  84  84  84  83
  81  82  83  83  84  83  84  82  80  79  85  84  84  82  82  82
  82  81  84  85  83  82  83  82  74  75  70  88  75  81  80  80
  83  74  61  60  63  61  60  60  71  82  81  72  69  76  86  85
  84  84  84  84  81  78  83  83  82  83  86  87  84  84  85  85
  84  85  84  84  84  82  85  87  85  85  85  84  85  85  84  85
%EOF



ENTER LOG DATE (MO/DY/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0305
 ENTER JOB CODE (3 CHARS) : 001


   DATA LOGGED :19 JUNE 1979                DATA ANALYZED : 22  AUG 1979
        LOGGER : DB-301/26                      SITE CODE : MILL+
 SERIAL NUMBER : 1224                            JOB CODE : 001
      BASELINE : 60 DB                          USER CODE : 0305
 DYNAMIC RANGE : 64 DB                          THRESHOLD : 80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                   STANDBY TIME =   1:50:16

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

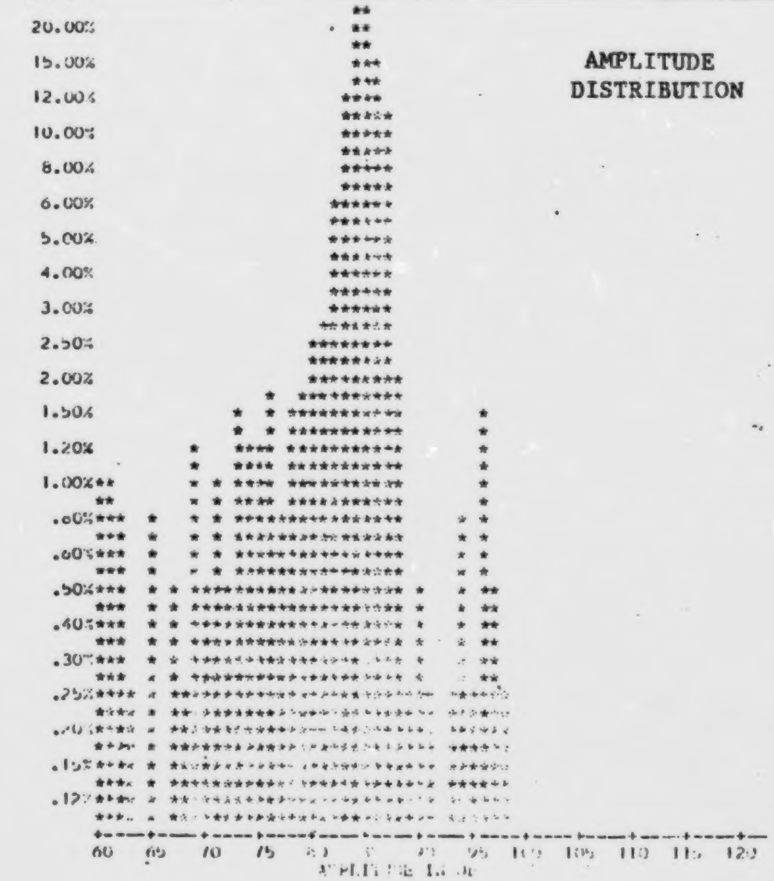

 TIME           LOSHA                     DOSE
 HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
    1      85.9      85.9          [illegible]     8.12
    2      83.6      84.8           5.177      13.30
    3      [illegible]      84.5          [illegible]     17.3[illegible]
    4      87.1      85.2          [illegible]     25.6[illegible]
    5      84.5      85.1           5.793      31.49
    6      85.7      85.2          [illegible]     38.36
    7      83.6      85.0          [illegible]     43.57
    8      82.2      84.7           4.[illegible]      47.91
 MIN. COMP. =  60 DB               MAX. [illegible] = 9[illegible]
 [illegible]
 [illegible]
 [illegible]
```

(64)

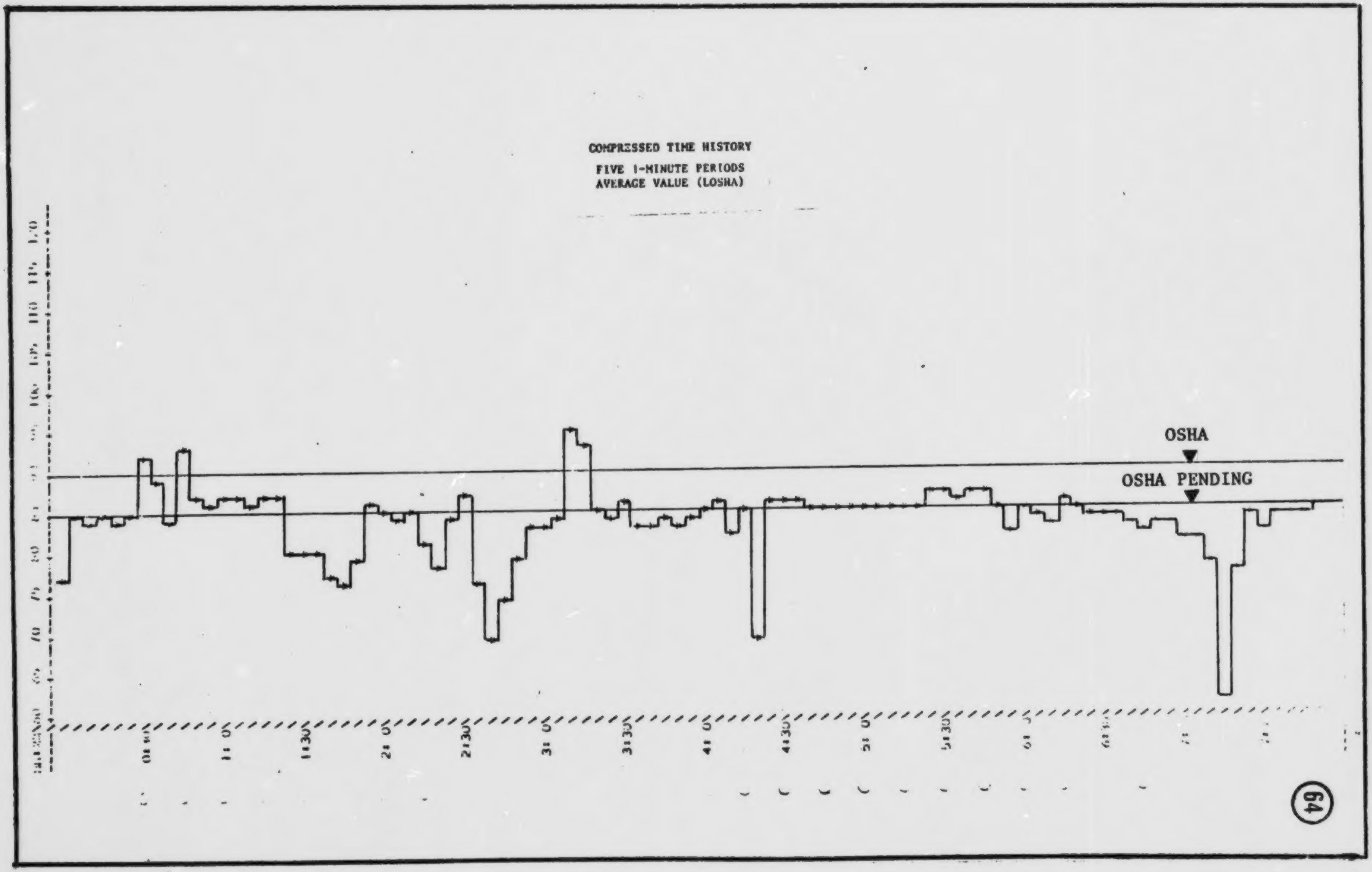
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
12	2.5	60 TO 64
11	2.3	65 TO 69
19	4.0	70 TO 74
28	5.8	75 TO 79
189	39.4	80 TO 84
204	42.5	85 TO 89
7	1.5	90 TO 94
10	2.1	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

AMPLITUDE DISTRIBUTION



Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING

(64)

(65)

Mechanic

```
[illegible]

 1 [illegible] 60 1216  60  64   4   1
 [illegible]    115200  480
 79  63  84  62  65  [illegible] [illegible] 74  73  [illegible] 76  75  77  75  76  65
 65  61  60  62  63  [illegible] 67  61  62  61  60  60  76  62  60  63
 60  61  75  62  64  62  60  60  66  [illegible] 74  76  69  65  69  77
 72  78  69  74  65  61  61  61  61  72  [illegible] 60  77  65  71  70
 68  62  62  64  75  84  88  81  65  81  85  75  79  [illegible] 75  79
 60  64  60  68  72  83  88  84  84  [illegible] 87  84  71  60  74  79
 71  [illegible] 71  60  61  72  74  60  65  62  65  73  70  60  60  79
 72  71  72  63  60  63  65  66  62  60  63  73  73  71  77  73
 68  60  69  68  68  70  69  70  69  75  75  82  82  70  79  75
 68  76  75  70  64  77  79  72  77  77  77  73  70  74  76  77
 60  63  78  80  64  71  78  65  62  65  72  61  70  80  90  61
 75  84  65  83  85  65  60  85  85  65  67  59  87  85  79  85
 67  87  87  87  63  78  72  70  64  73  63  82  65  76  80  75
 73  77  85  85  83  82  61  63  61  74  65  62  64  64  61  62
 65  62  66  63  73  85  87  84  74  61  74  62  75  79  81  77
 74  65  64  82  83  76  70  66  60  72  82  81  79  76  60  62
 61  65  66  63  63  64  70  69  63  63  67  66  67  65  65  68
 62  65  71  65  67  69  68  69  69  66  71  71  72  68  68  71
 68  74  67  70  72  66  69  71  72  73  70  71  69  79  61  70
 79  69  82  89  85  85  78  61  68  81  75  87  88  85  81  69
 80  73  75  69  66  67  67  63  68  73  86  88  61  60  60  74
 61  60  64  78  66  91  62  75  60  60  60  60  69  73  60  67
 70  71  60  77  81  60  60  75  82  82  81  77  85  85  85  84
 84  74  60  73  76  72  77 . 73  74  69  68  75  85  89  77  73
 77  80  87  93  82  84  62  67  60  79  84  84  84  83  78  61
 81  74  66  60  62  61  68  60  82  87  84  80  61  65  60  62
 61  62  64  63  70  60  62  63  60  72  71  61  60  60  60  60
 60  60  64  70  74  60  65  62  60  63  60  63  65  65  61  60
 60  62  60  60  60  60  75  82  70  60  78  82  81  82  74  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 19/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0780

 ENTER JOB CODE (3 CHARS) : 001




   DATA LOGGED :19 JUNE 1979             DATA ANALYZED : 22  AUG 1979
          LOGGER : DB-301/26                   SITE CODE : MILL+
 SERIAL NUMBER : 1216                           JOB CODE : 001
       BASELINE : 60 DB                        USER CODE : 0780
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                 STANDBY TIME =    1:55: 8

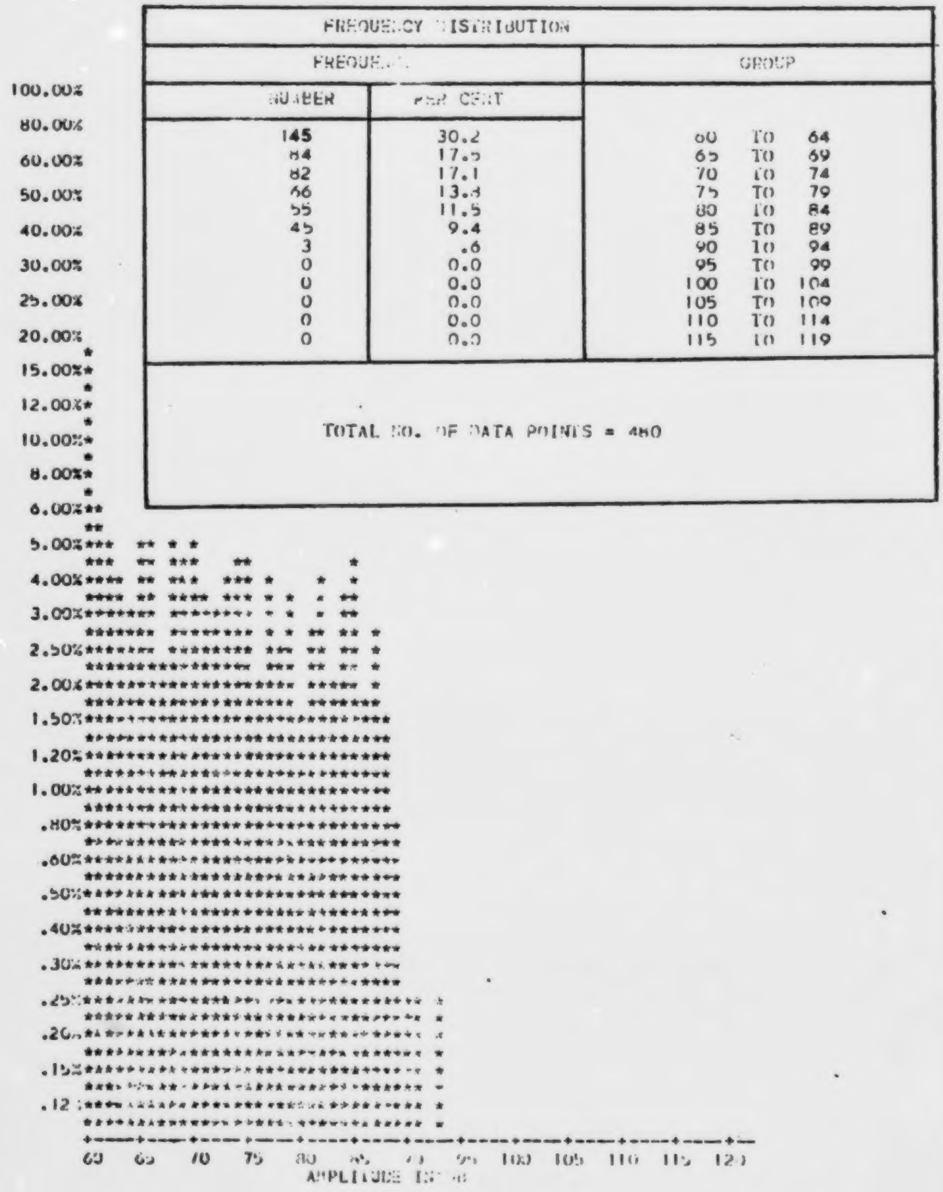
           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS  .
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 480
 PERIOD =  1 MINUTES

 TIME            LOSHA                        DOSE
 HOUR     CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
    1        73.3       73.3             1.237       1.24
    2        77.1       75.5             2.090       3.33
    3        75.8       75.6             1.732       5.07
    4        80.7       77.2             3.42[illegible]       8.49
    5        71.9       76.4             1.01[illegible]       9.51
    6        78.1       76.7             2.395      11.91
    7 . :    79.6       77.2             2.935  .   14.84
    8        68.4       76.5              .62[illegible]      15.47
 MIN. COMP. =  60 DB                MAX. COMP. =  93 DB
 ARITHMETIC MEAN =  71 DB
 STD. DEVIATION =   9 DB
 VARIANCE = 81 DB
```

(65)

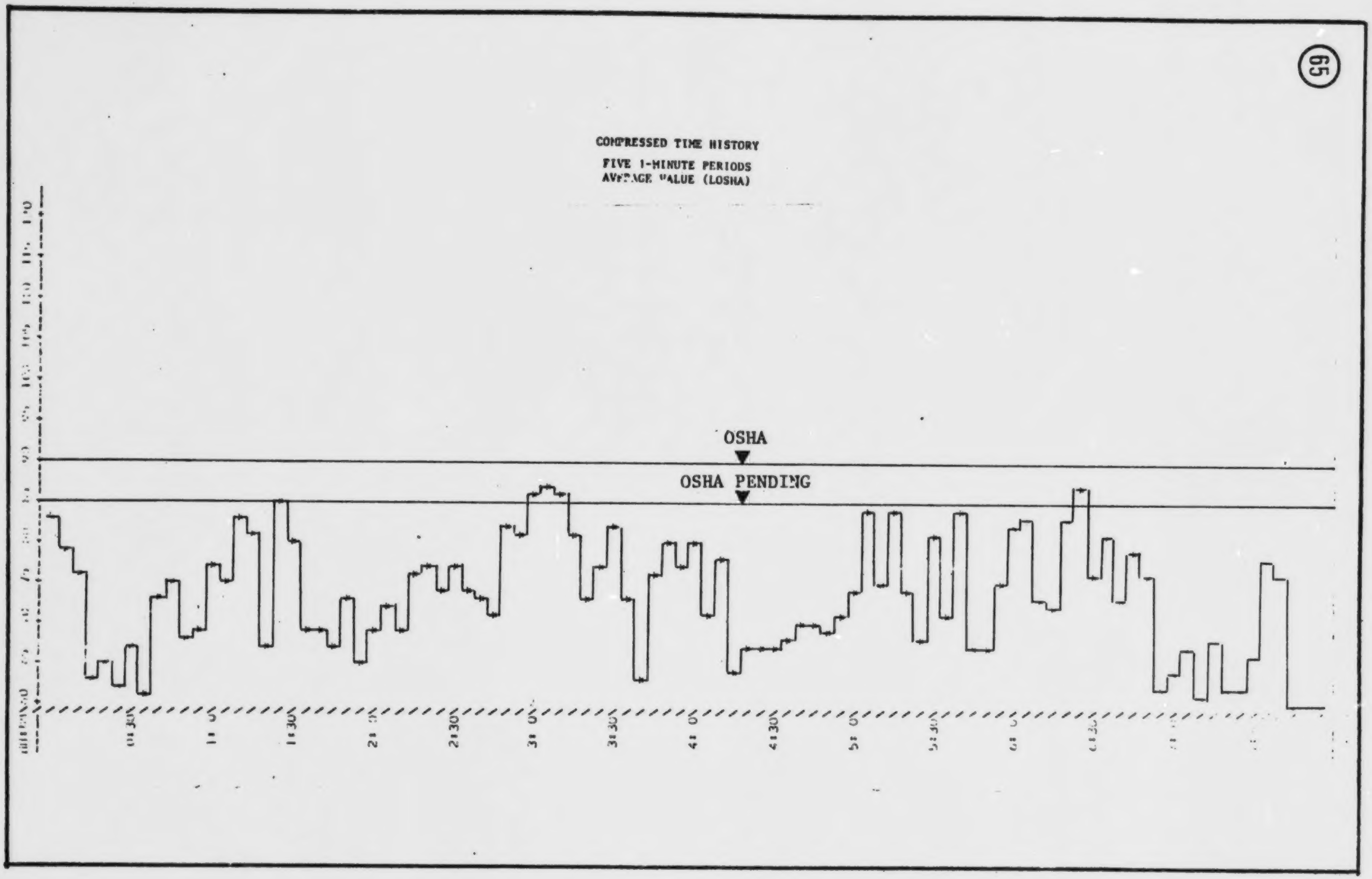
AMPLITUDE DISTRIBUTION

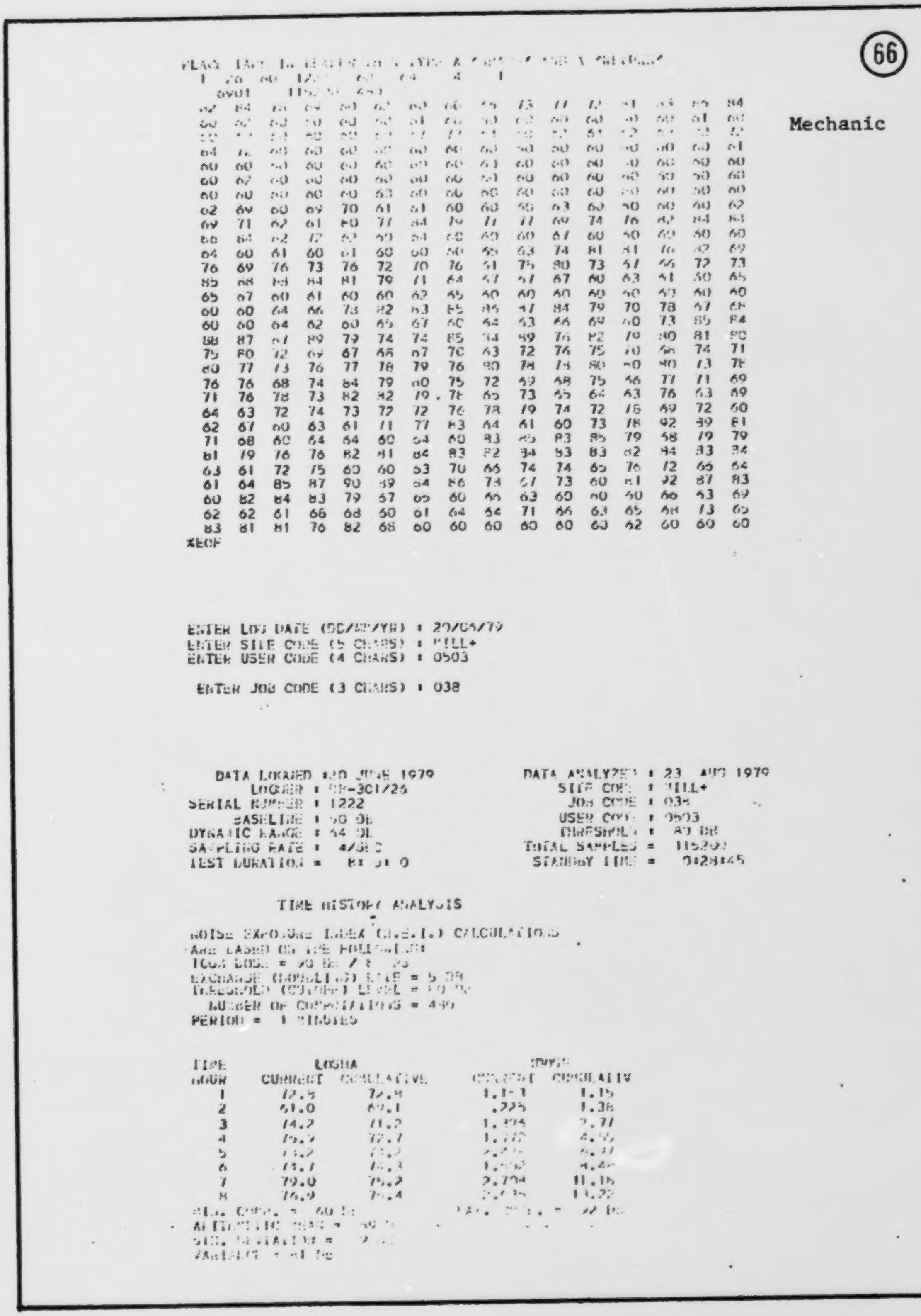


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
145	30.2	60 TO 64
84	17.5	65 TO 69
82	17.1	70 TO 74
66	13.8	75 TO 79
55	11.5	80 TO 84
45	9.4	85 TO 89
3	.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


(65)
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30



⑯

Mechanic

```
PLACE TAPE IN READER [illegible]
 1  26  60  12?   6?  64    4    1
   6901     115?? 4?1
 62  84  [illegible] 69  60  62  60  66  [illegible] 73  77  72  61  [illegible] [illegible] 84
 60  62  63  70  60  [illegible] 61  [illegible] [illegible] [illegible] 60  60  [illegible] 60  61  60
 [illegible]
 64  7?  60  60  60  60  60  64  60  60  60  60  60  60  60  61
 60  60  60  60  60  60  60  60  61  60  60  60  60  60  50  60
 60  62  60  60  60  60  60  60  61  60  60  60  60  50  50  60
 60  60  60  60  60  63  60  60  60  60  60  60  60  60  50  60
 62  69  60  69  70  61  61  60  60  50  63  60  50  60  60  62
 69  71  62  61  80  77  84  74  77  77  69  74  76  82  84  84
 60  84  62  72  62  50  54  60  60  60  67  60  50  60  50  60
 64  60  61  60  61  60  60  50  55  63  74  81  81  76  82  69
 76  69  76  73  76  72  70  76  51  75  80  73  57  66  72  73
 85  68  84  84  81  79  71  64  57  57  67  60  63  61  50  65
 65  67  60  61  60  60  62  65  50  60  60  60  50  60  60  60
 60  60  64  66  73  82  83  85  85  87  84  79  70  78  57  68
 60  60  64  62  60  65  67  60  54  53  66  69  60  73  85  84
 88  87  67  89  79  74  74  85  84  89  76  82  79  80  81  90
 75  80  72  69  67  66  67  70  63  72  76  75  70  66  74  71
 80  77  73  76  77  78  79  76  80  78  78  80  80  80  73  78
 76  76  68  74  64  79  80  75  72  59  68  75  56  77  71  69
 71  76  78  73  82  82  79 . 78  65  73  65  64  63  76  63  69
 64  63  72  74  73  72  72  76  78  79  74  72  76  69  72  60
 62  67  60  63  61  71  77  83  64  61  60  73  78  92  89  81
 71  68  60  64  64  60  54  60  83  85  83  85  79  58  79  79
 61  79  76  76  82  81  84  83  82  84  53  83  82  84  83  84
 63  61  72  75  60  60  53  70  66  74  74  65  76  72  66  64
 61  64  85  87  90  89  54  86  74  67  73  60  81  92  87  83
 60  82  84  83  79  57  65  60  55  63  60  60  50  60  53  69
 62  62  61  66  68  50  61  64  54  71  66  63  65  68  73  65
 83  81  81  76  82  68  60  60  60  60  60  60  62  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0503

 ENTER JOB CODE (3 CHARS) : 038



   DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
        LOGGER : DP-301/25                     SITE CODE : MILL+
SERIAL NUMBER : 1222                            JOB CODE : 038
      BASELINE : 50 DB                         USER CODE : 0503
DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                   STANDBY TIME =   0:28:45

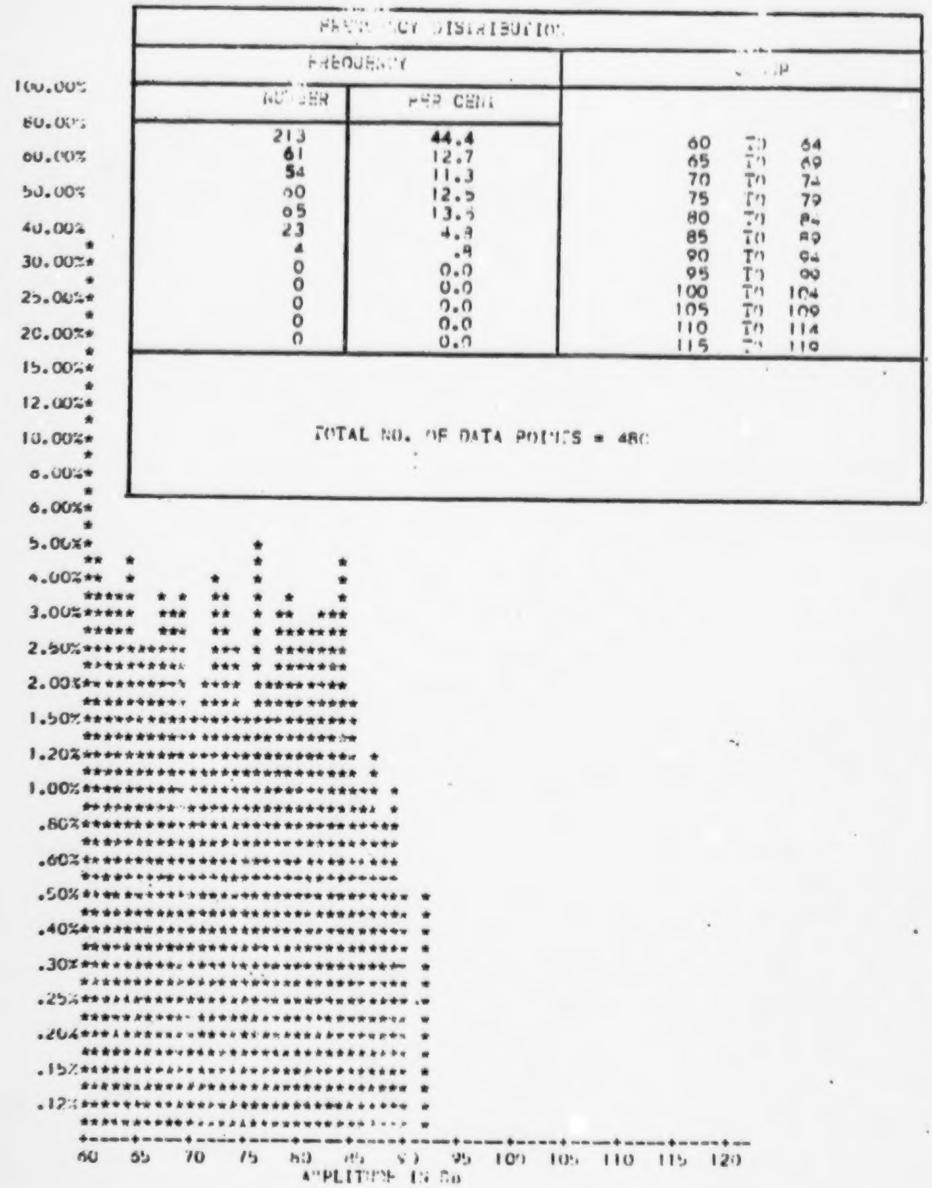
          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME           LOGHA                       DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIV
   1       72.8       72.8          1.1?1      1.15
   2       61.0       69.1           .225      1.38
   3       74.2       71.2          1.?95      2.77
   4       75.?       72.7          1.??2      4.??
   5       7?.2       7?.?          ?.??       ?.??
   6       73.7       74.3          1.??       8.4?
   7       79.0       75.2          2.704     11.16
   8       76.9       75.4          ?.??      13.22
MIN. CONT. =  60 DB              MAX. CONT. =  92 DB
ARITHMETIC MEAN =  [illegible]
STD. DEVIATION =  [illegible]
VARIANCE = [illegible]
```

(66)

AMPLITUDE DISTRIBUTION



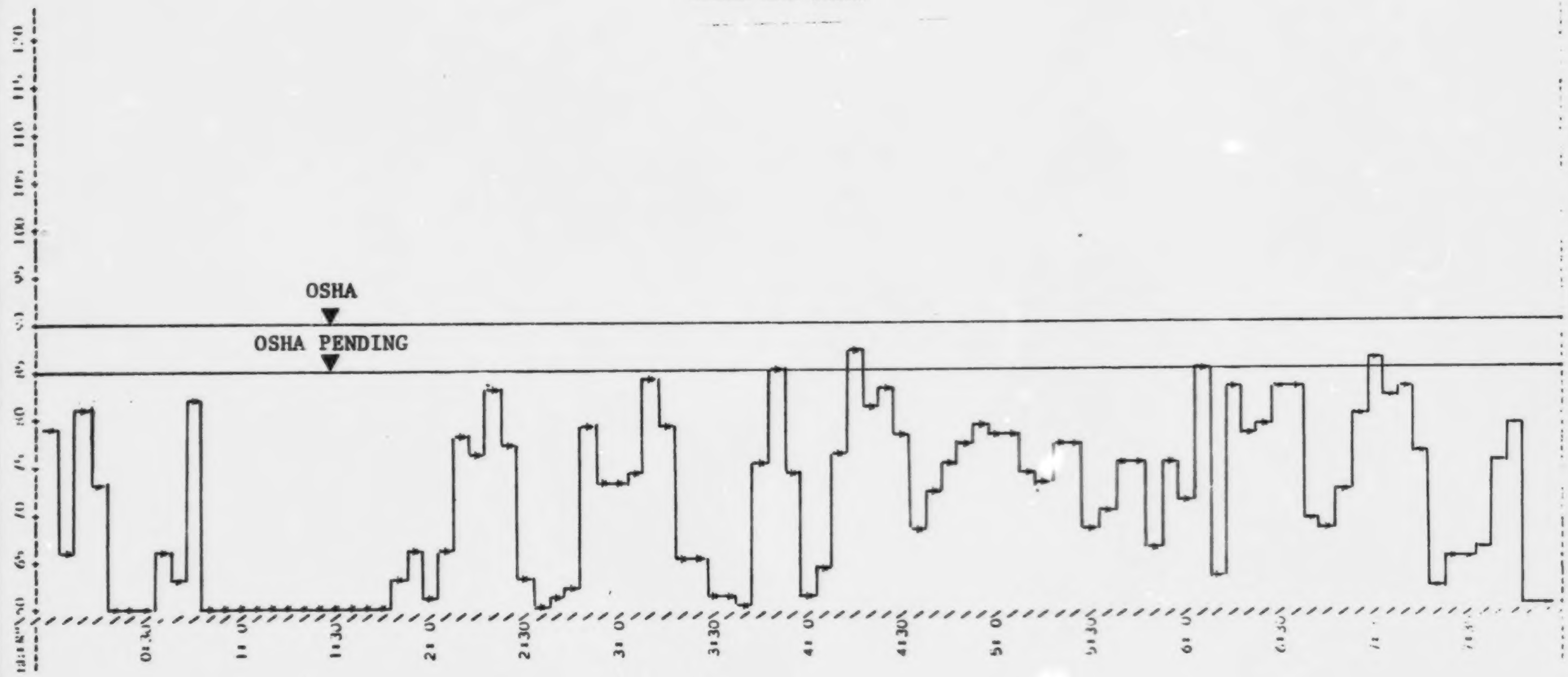
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
213	44.4	60 TO 64
61	12.7	65 TO 69
54	11.3	70 TO 74
60	12.5	75 TO 79
65	13.5	80 TO 84
23	4.8	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(66)

(67)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

  1  26  80  1214   60   64    4    1
   6757    115200  480
  91  74  60  75  75  64  76  71  77  81  77  84  82  74  78  75
  61  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  62  65  60  60  62  60  60  67  60  60  60  60
  60  60  60  60  69  60  60  62  62  60  60  60  73  79  78  74
  77  63  79  80  81  71  60  77  83  82  81  82  80  78  79  78
  77  81  73  60  60  65  60  61  60  74  81  76  81  77  76  76
  78  81  76  63  78  78  78  75  77  75  78  71  78  77  77  73
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  70  78  69  77  61  77  68  73  78  70
  72  79  88  89  89  80  80  79  74  69  60  60  60  60  60  60
  60  60  60  60  61  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  63  60  60  63  60  60  60  60  60  61  60  60  60
  60  60  74  76  60  63  61  79  82  79  74  77  78  77  78  60
  62  69  61  60  60  62  60  60  78  79  79  78  74  61  80  75
  79  77  76  76  72  73  75  75  70  76  69  73  78  77  78  76
  75  64  60  60  68  72  81  87  84  83  90  89  88  89  84  87
  89  77  72  60  68  60  60  60  60  73  57  75  67  79  68  66
  60  70  78  80  73  77  71  60  66  60  60  70  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  65  71  61  60  60  60  60  68  73  77  75  64  60  60  61
  67  60  60  68  60  60  60  60  61  70  66  62  63  69  60  60
  60  60  65  66  67  67  68  72  81  73  76  75  76  61  60  60
  60  61  66  60  61  60  60  60  60  64  59  67  68  60  64  60
  63  61  61  69  67  60  64  60  60  60  60  60  60  60  60  60
  60  63  66  60  60  61  60  63  63  60  60  60  60  62  67  62
  60  60  60  60  60  60  60  60  60  60  61  60  60  62  67  64
  60  60  60  60  60  60  60  60  60  60  60  60  66  60  60  60
  60  60  60  61  60  60  60  60  63  62  60  60  60  60  65  60
  60  63  60  62  60  82  82  75  79  83  81  84  90  89  88  90
%EOF



ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MIIL+
ENTER USER CODE (4 CHARS) : 0751
 ENTER JOB CODE (3 CHARS) : 011



   DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MIIL+
SERIAL NUMBER : 1214                            JOB CODE : 011
       BASELINE : 60 DB                        USER CODE : 0751
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                   STANDBY TIME =   0:20: 9

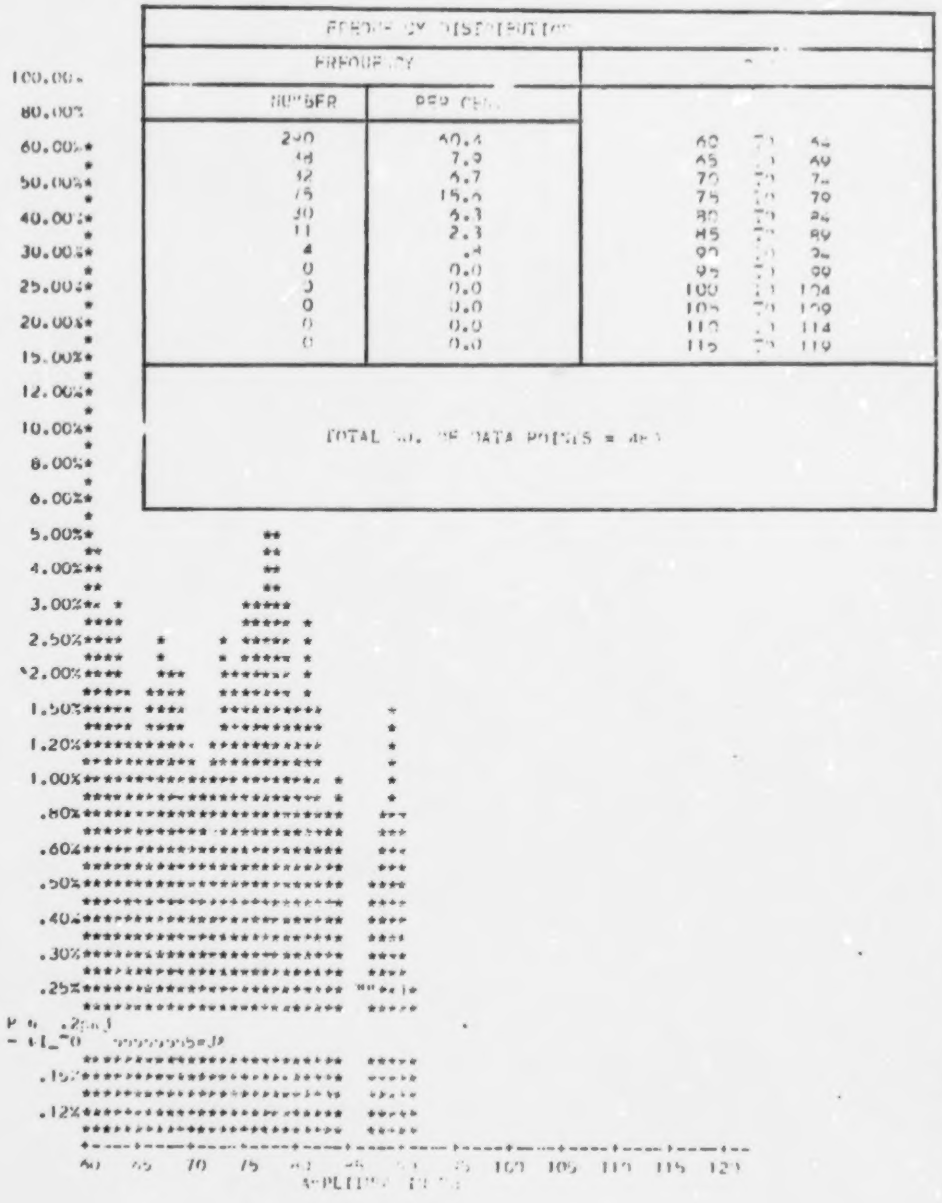
           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES
A

TIME          LOSHA                         DOSE
HOUR    CURRENT   CUMULATIVE        CURRENT   CUMULATIVE
   1       71.2        71.2           .927         .93
   2       76.0        74.0          1.793        2.72
   3       72.9        73.7          1.173        3.90
   4       73.1        73.5          1.202        5.10
   5       76.9        74.3          2.021        7.12
   6       64.5        73.4           .367        7.49
   7       65.4        72.7           .411        7.90
   8       74.1        72.8          1.376        9.27
MIN. COMP. =  60 DB .               MAX. COMP. =  91 DB
ARITHMETIC MEAN =  66 DB
STD. DEVIATION =   7 DB
VARIANCE = 41 DB
```

(67)

AMPLITUDE DISTRIBUTION

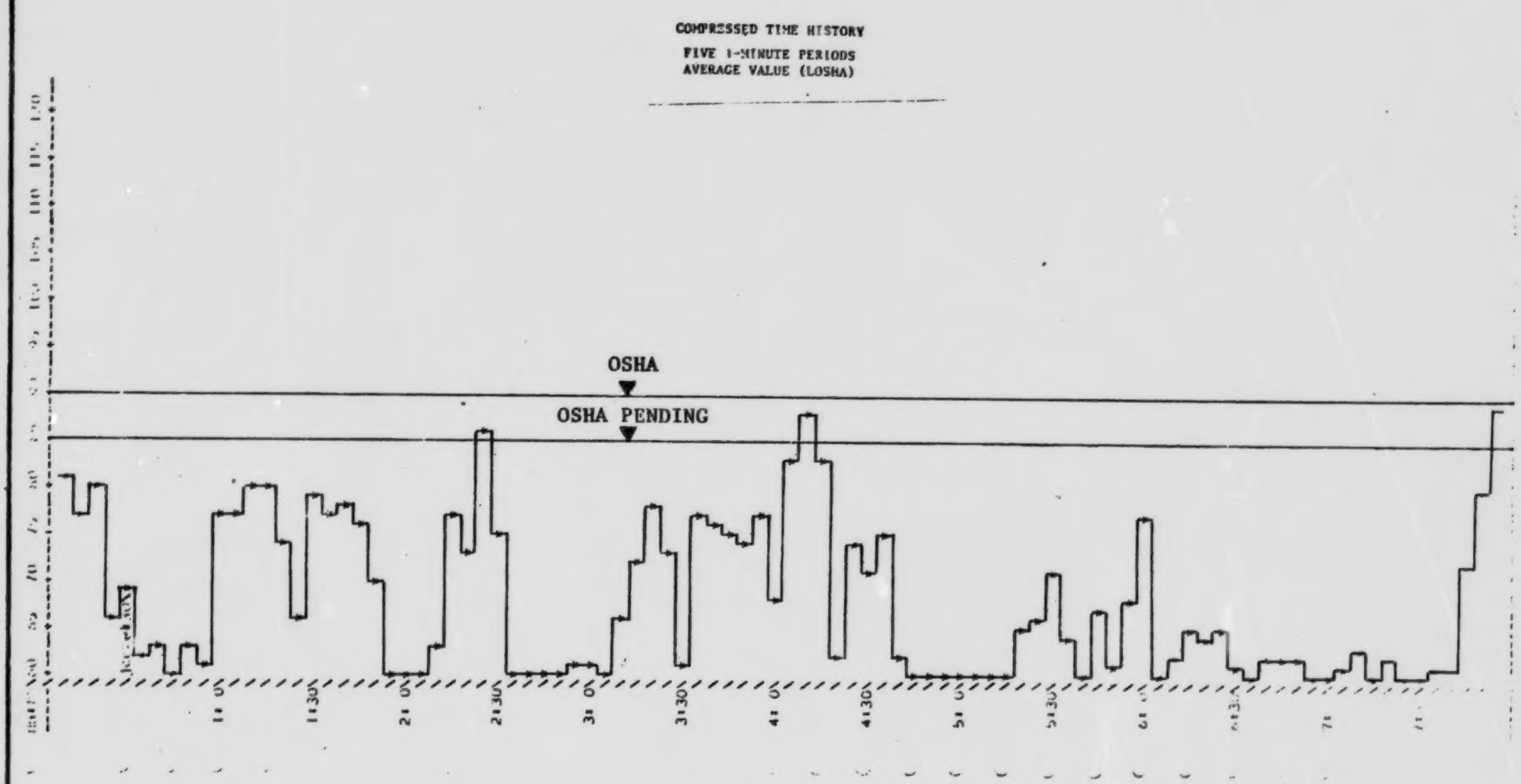


FREQUENCY DISTRIBUTION		
FREQUENCY		[illegible]
NUMBER	PER CENT	
290	60.4	60 TO 64
38	7.9	65 TO 69
32	6.7	70 TO 74
75	15.6	75 TO 79
30	6.3	80 TO 84
11	2.3	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

(67)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7:

(68)

Mechanic

```
PLACE TAPE IN [illegible]
 1  26  80  [illegible]  [illegible]  64  [illegible]  1
   6293    115[illegible]  [illegible]
   83  77  [illegible]  [illegible]  [illegible]  75  [illegible]  [illegible]  [illegible]  84  87  [illegible]  [illegible]  84  [illegible]  [illegible]
   [illegible]  87  86  [illegible]  [illegible]  86  [illegible]  87  [illegible]  [illegible]  84  [illegible]  [illegible]  [illegible]  43  [illegible]
   [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  77  [illegible]  [illegible]  [illegible]  [illegible]  77  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
   85  81  81  85  [illegible]  86  84  [illegible]  [illegible]  [illegible]  87  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
   87  83  83  84  [illegible]  83  83  85  [illegible]  [illegible]  83  87  [illegible]  [illegible]  [illegible]  85
   86  87  87  86  87  85  85  [illegible]  [illegible]  85  84  84  [illegible]  [illegible]  86  86
   86  86  87  [illegible]  85  85  85  [illegible]  [illegible]  85  86  [illegible]  86  [illegible]  87  87
   85  86  85  82  83  81  81  82  [illegible]  [illegible]  84  85  84  82  82  81
   82  81  81  81  81  82  82  81  80  80  82  81  81  82  81  81
   82  82  82  60  67  63  72  60  [illegible]  61  61  67  70  70  71  [illegible]
   71  70  67  66  74  75  78  74  79  81  76  81  81  [illegible]  81  84
   87  84  84  75  84  84  82  86  82  82  82  84  81  83  81  82
   82  82  82  82  82  82  82  82  82  82  82  82  82  81  80  81
   82  82  82  82  82  83  82  82  82  82  82  82  82  82  82  82
   82  81  81  82  82  82  82  82  82  82  82  81  82  81  81  81
   81  81  83  85  83  84  84  82  83  82  83  83  83  82  81  82
   82  85  86  84  82  83  79  73  74  77  78  76  71  73  67  63
   63  66  62  63  61  64  71  67  64  61  66  66  65  73  66  70
   71  76  75  74  77  75  72  77  75  77  69  74  70  72  60  68
   83  75  74  73  74  80  77  81  83  84  85  83  80  80  83  84
   86  68  85  91  87  84  82  84. 83  82  73  76  83  82  81  82
   82  82  82  81  89  85  83  82  83  84  83  83  84  83  84  82
   83  83  84  82  84  82  82  83  83  82  82  82  83  83  83  83
   83  80  80  78  79  79  60  71  83  83  83  83  84  83  84  83
   83  83  83  84  83  86  82  84  85  84  84  83  80  82  82  83
   83  84  84  84  83  82  85  82  85  84  84  83  83  83  83  84
   83  84  84  84  84  84  85  84  83  83  83  83  83  83  83  83
   83  83  83  83  84  83  83  84  83  83  84  84  84  84  83  84
   84  62  85  84  60  84  85  76  74  61  62  63  60  60  73  66
   60  61  62  67  65  78  82  84  85  82  83  65  61  68  60  80
%EOF




ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL*
ENTER USER CODE (4 CHARS) : 0305

 ENTER JOB CODE (3 CHARS) : 001



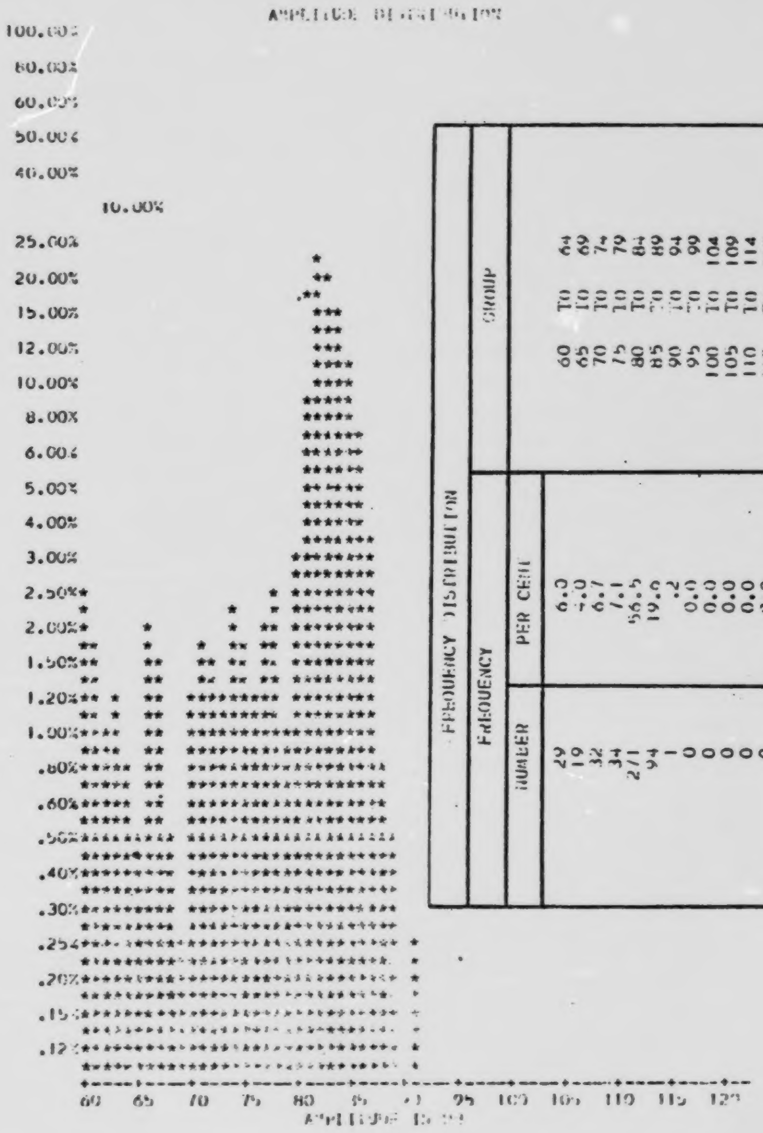

    DATA LOGGED :20 JUNE 1979                 DATA ANALYZED : 23  AUG 1979
        LOGGER : DB-301/26                       SITE CODE : MILL*
 SERIAL NUMBER : 1212                             JOB CODE : 001
      BASELINE : 60 DB                           USER CODE : 0305
 DYNAMIC RANGE : 64 DB                           THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                    STANDBY TIME =   0:25:14

            TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                      DOSE
HOUR      CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
  1        83.2       84.2         [illegible]       4.[illegible]
  2        85.2       84.3         7.454      11.[illegible]
  3        7[illegible].5       8[illegible].0         [illegible]       14.[illegible]
  4        [illegible]2.1       [illegible]         [illegible]       1[illegible]
  5        [illegible]       [illegible].1         [illegible]       2[illegible]
  6        82.6       82.2         [illegible]       25.[illegible]
  7        82.8       82.3         [illegible]       29.[illegible]
  8        [illegible]1.1       [illegible]2.1         [illegible]       3[illegible]
[illegible] = [illegible]                     [illegible] =  91[illegible]
[illegible]
[illegible]
[illegible]
```

(68)

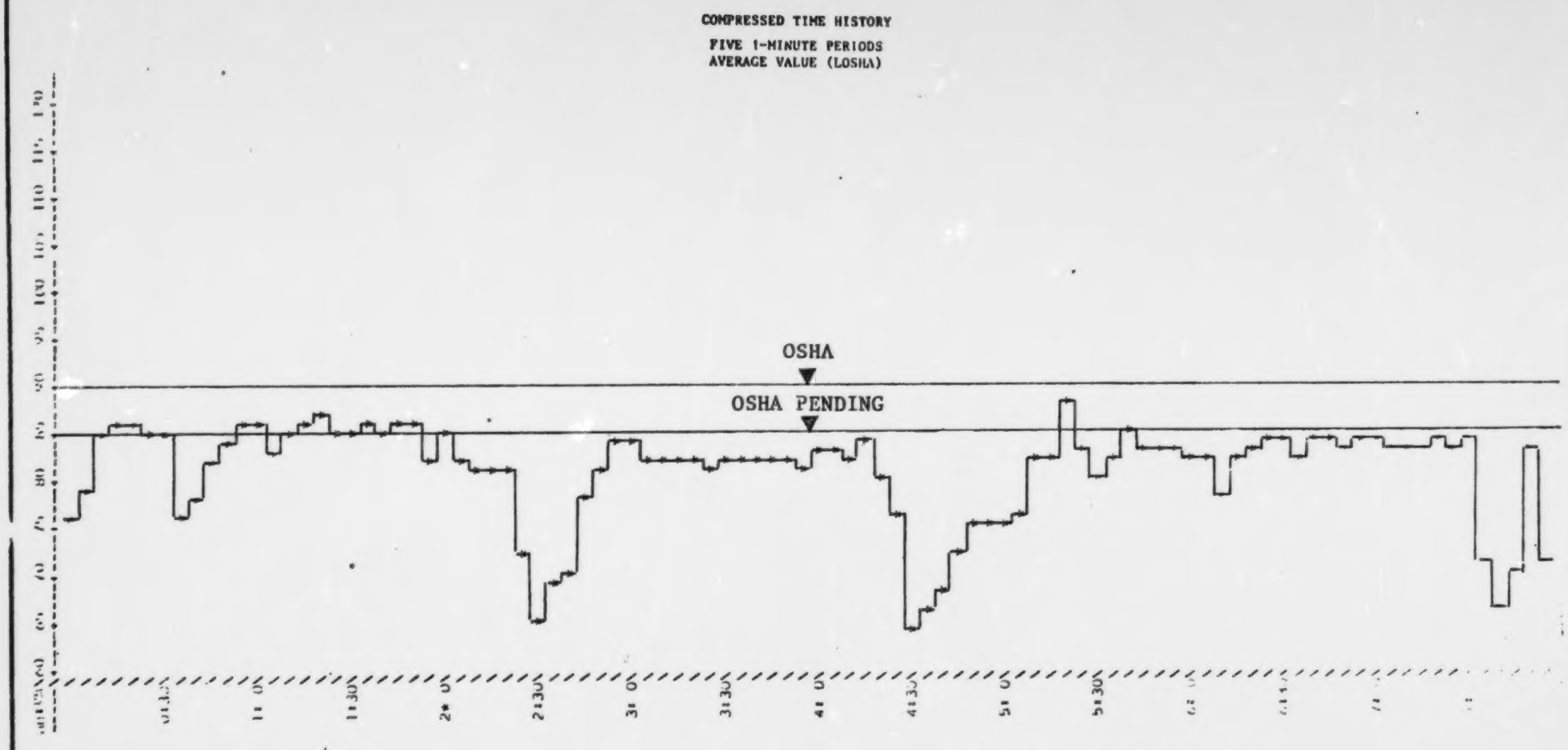


FREQUENCY DISTRIBUTION

GROUP	FREQUENCY PER CENT	FREQUENCY NUMBER
60 TO 64	6.0	29
65 TO 69	4.0	19
70 TO 74	6.7	32
75 TO 79	7.1	34
80 TO 84	56.5	271
85 TO 89	19.6	94
90 TO 94	.2	1
95 TO 99	0.0	0
100 TO 104	0.0	0
105 TO 109	0.0	0
110 TO 114	0.0	0
115 TO 119		0

TOTAL NO. OF DATA POINTS = 480

Number of computations = 396


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30

(68)

(69)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1221   60   64    4    1
   9.951    115200   480
  83  84  83  84  83  83  82  82  82  82  81  81  83  82  82  83
  81  64  74  71  69  79  86  76  70  81  85  75  76  74  61  79
  83  86  83  87  84  80  84  84  79  83  75  83  79  77  83  85
  85  82  85  86  84 .83  84  84  84  85  75  68  81  78  86  86
  86  87  87  85  80  87  86  86  84  87  84  82  79  84  80  80
  80  70  65  78  82  76  80  72  80  81  72  60  81  86  83  89
  87  87  87  87  83  87  87  87  87  85  79  82  72  79  81  67
  72  76  73  71  79  80  77  77  75  77  81  81  82  83  82  83
  82  82  83  82  82  82  83  82  82  82  82  82  73  82  82  82
  82  60  75  77  68  59  67  72  82  87  72  67  77  78  80  71
  85  80  87  87  88  87  88  87  86  86  82  85  70  68  76  74
  79  81  84  84  91  82  77  86  87  85  85  66  86  87  86  87
  85  82  82  82  83  76  74  74  60  79  85  62  78  79  78  73
  75  67  63  71  71  79  79  76  83  84  82  85  85  84  83  81
  77  84  87  83  86  86  64  84  83  84  84  84  84  72  74  77
  70  79  76  84  77  72  71  82  77  79  75  71  58  71  63  61
  63  65  60  63  60  68  75  69  62  70  73  74  78  73  73  76
  80  78  78 75  81 .75  81  76  81  78  74  77  75  68  69  72
  76  74  70  78  87  85  85  84  70  66  62  79  83  82  73  66
  76  79  85  81  74  69  77  71 .87  68  70  74  74  74  80  79
  77  79  78  79  82  79  83  80  79  79  83  84  75  85  84  84
  83  84  81  82  83  79  78  68  71  79  77  77  66  60  61  77
  80  78  81  80  79  76  78  79  77  78  81  77  72  73  64  72
  74  80  82  75  77  79  77  76  77  81  78  79  78  80  81  82
  77  74  75  63  77  79  80  77  75  78  82  80  82  80  82  81
  84  84  84  84  84  83  83  82  82  82  83  84  83  82  82  83
  83  83  75  77  60  76  84  82  82  83  62  83  82  82  82  83
  83  82  82  83  84  83  82  83  82  82  83  82  82  83  83  81
  83  83  82  83  83  78  72  69  85  86  83  72  70  68  83  80
  73  77  79  70  75  73  75  80  80  67  72  77  69  72  61  66
*EOF



ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 1483

 ENTER JOB CODE (3 CHARS) : 001



(   DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
         LOGGER : DB-301/26                    SITE CODE : MILL+
  SERIAL NUMBER : 1221                          JOB CODE : 001
(      BASELINE : 60 DB                        USER CODE : 1483
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
(  TEST DURATION =   8: 0: 0                STANDBY TIME =   0:38:58

            TIME HISTORY ANALYSIS

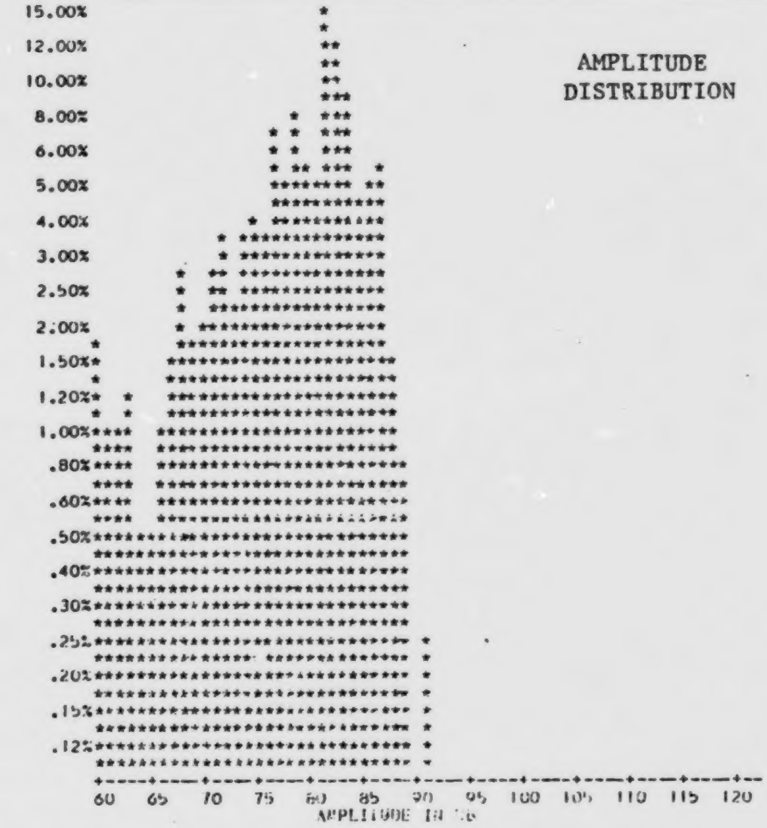
  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 480
  PERIOD =  1 MINUTES

  TIME            LOSHA                        DOSE
  HOUR     CURRENT  CUMULATIVE         CURRENT  CUMULATIVE
    1       81.8      81.8             4.019      4.02
    2       83.2      82.5             4.[illegible]      8.20
    3       81.6      82.2             3.[illegible]     12.79
    4       82.4      82.3             4.377     17.17
    5       76.3      81.4             1.882     19.05
    6       79.3      81.1             2.81[illegible]     21.87
    7       80.0      81.0             3.1[illegible]     25.00
    8       80.3      80.9             3.274     28.27
  MIN. COMP. =  60 DB                MAX. COMP. =  91 DB
  ARITHMETIC MEAN =  76 DB
  STD. DEVIATION =   6 DB
  VARIANCE = 36 DB
```

(69)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
22	4.6	60 TO 64
30	6.3	65 TO 69
58	12.1	70 TO 74
111	23.1	75 TO 79
189	39.4	80 TO 84
69	14.4	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

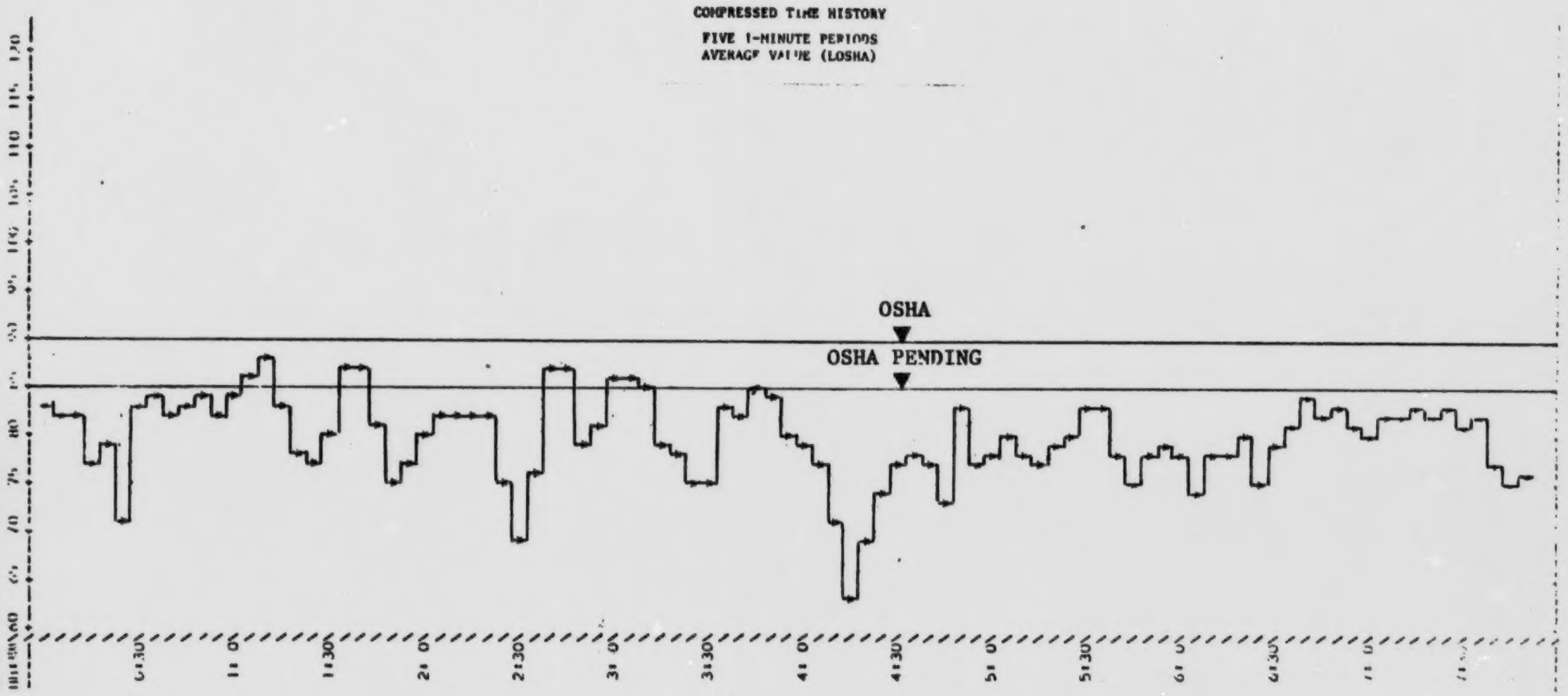
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE
DISTRIBUTION

Number of computations = 480

(69)



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(70)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A "[illegible]" AND A "RETURN"
  1  26  60  1215   60   64    4    1
  43/79       87725   365
 76  76  61  61  60  60  63  75  77  91  82  83  87  59  64  62
 60  62  60  60  60  60  60  60  60  60  60  60  60  60  60  64
 63  60  60  60  60  60  60  60  60  60  60  62  62  58  79  60
 60  60  60  60  61  60  60  60  60  60  60  60  60  60  65  72
 64  74  60  60  63  60  62  60  60  60  60  60  60  60  65  60
 60  60  62  60  60  60  60  61  61  60  60  60  60  60  60  60
 61  60  60  60  63  60  60  60  60  60  60  60  60  61  71  60
 60  60  60  61  60  61  61  61  62  60  60  60  63  64  69  63
 60  71  65  84  81  73  78  68  62  68  77  82  84  85  86  83
 60  68  60  62  60  60  60  65  61  60  60  60  61  55  60  61
 60  62  61  62  61  64  66  71  80  63  76  80  66  63  74  72
 76  80  74  78  74  80  81  78  81  64  72  73  64  80  90  81
 81  82  78  61  63  68  79  76  81  84  85  85  86  86  90  89
 86  86  91  91  83  88  90  91  92  87  85  86  88  88  84  76
 60  64  84  86  85  88  87  85  85  81  74  71  74  64  60  66
 60  67  70  72  71  67  71  73  70  64  61  75  66  87  83  89
 88  91  74  73  83  82  85  82  75  78  75  79  75  73  67  73
 63  65  61  62  63  62  60  66  70  65  61  64  64  68  74  70
 70  67  74  73  75  71  79  66  76  71  77  74  66  75  71  64
 65  73  80  77  71  78  76  74  70  75  76  72  74  74  71  76
 79  72  76  77  74  76  73  66  79  60  77  76  72  75  69  73
 77  71  71  73  73  76  76  74  63  76  80  79  85  81  79  71
 63  65  72  67  67  77  82  86  90  83  89  94  85  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EL,


ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0780

 ENTER JOB CODE (3 CHARS) : 001


    DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILL+
  SERIAL NUMBER : 1215                          JOB CODE : 001
       BASELINE : 60 DB                        USER CODE : 0780
  DYNAMIC RANGE : 64 DB                        THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =   87725
  TEST DURATION =    6: 5:31                STANDBY TIME =   3: 0:19

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 365
  PERIOD =  1 MINUTES

  TIME         LOSHA                     %DOSE
  HOUR    CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
    1      70.7       70.7          [illegible]      .86
    2      62.3       67.6          .27[illegible]     1.13
    3      74.1       70.5          1.3[illegible]     2.51
    4      84.1       75.8          5.[illegible]      8.00
    5      77.1       76.8          2.1[illegible]     10.10
    6      75.5       75.6          1.[illegible]      11.7[illegible]
    7      67.2       77.1          [illegible]        12.7[illegible]
  MIN. COMP. =  60 DB               MAX. COMP. =  94 DB
  ARITHMETIC MEAN =  76 DB
  STD. DEVIATION =  10 DB
  VARIANCE =10[illegible]
```

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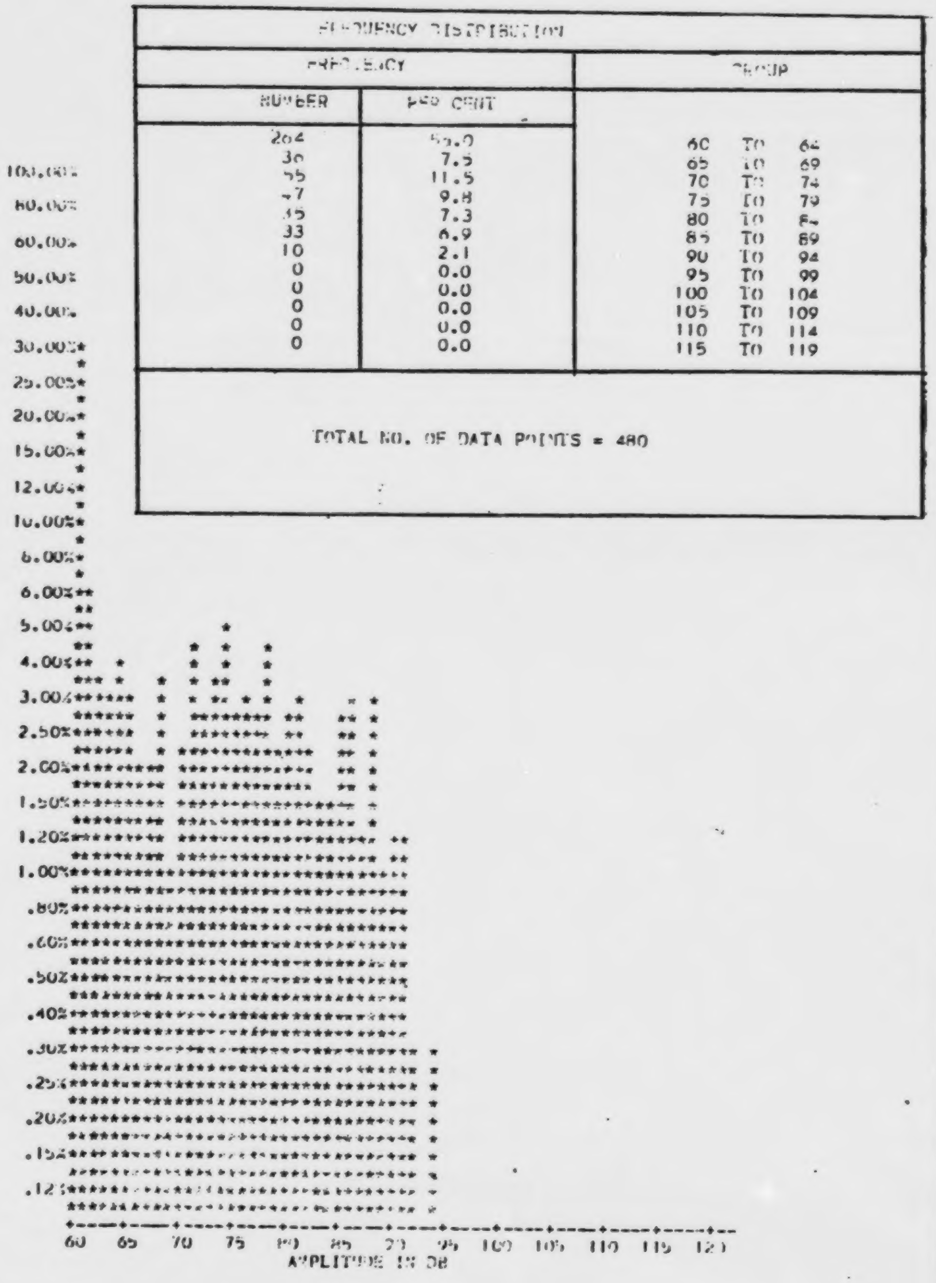
AMPLITUDE DISTRIBUTION

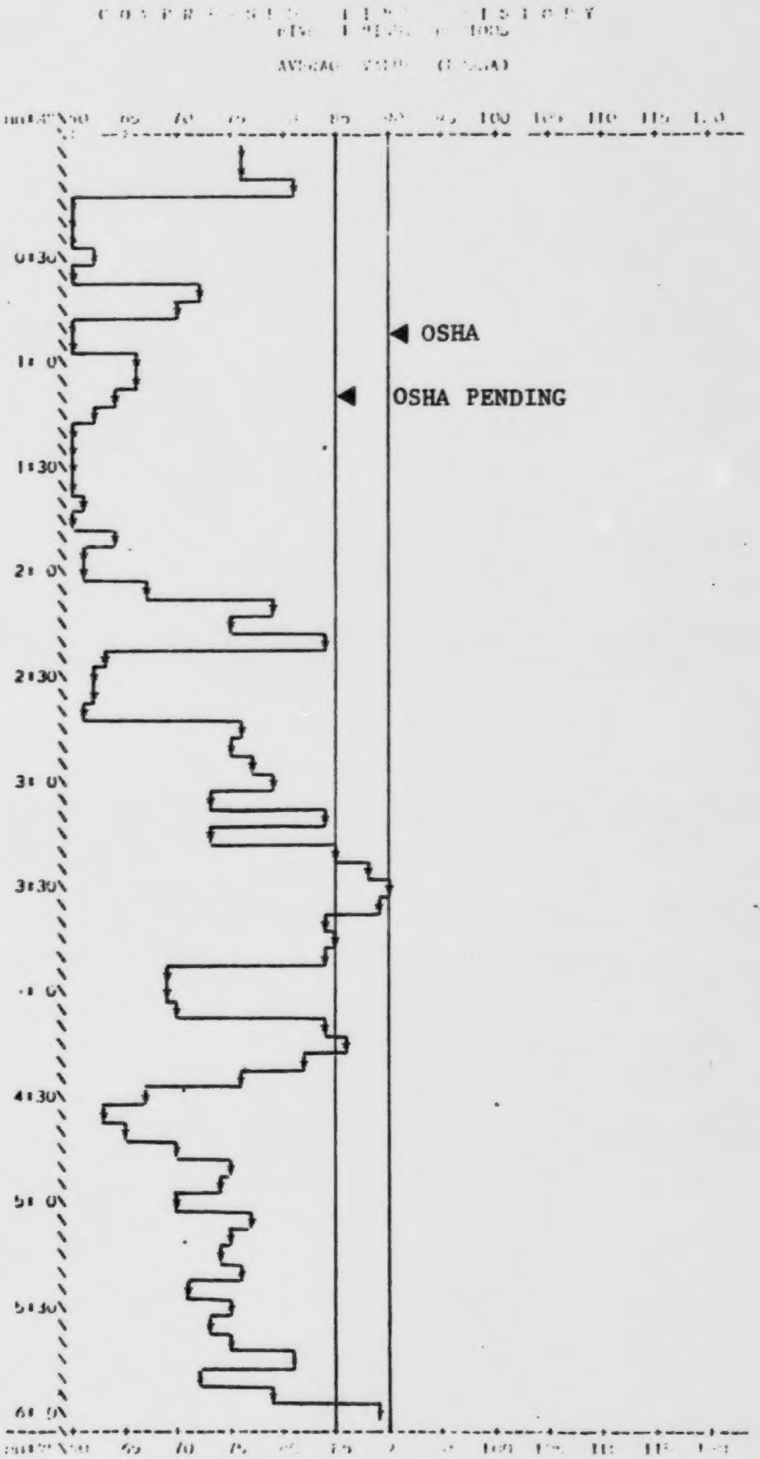


FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
264	55.0	60 TO 64
36	7.5	65 TO 69
55	11.5	70 TO 74
47	9.8	75 TO 79
35	7.3	80 TO 84
33	6.9	85 TO 89
10	2.1	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 365

(70)


COMPRESSED TIME HISTORY
AVERAGE VALUE
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
OSHA
OSHA PENDING

⑺1

Mechanic

```
PLACE TAPE IN READER AND TYPE A "START" AND A "RETURN"
  1  26  06  1225   60   64    4    1
   17699    115200  480
 61  70  67  77  84  86  86  87  79  86  67  70  69  79  71  79
 76  64  67  85  82  82  83  82  66  61  66  67  67  74  80  86
 86  89  87  89  89  89  89  87  87  87  86  83  86  75  77  74
 76  74  74  79  79  74  81  82  82  81  82  85  74  80  80  77
 75  65  82  78  80  79  69  74  72  60  65  78  74  67  60  72
 69  63  70  67  61  67  76  67  67  62  60  65  69  85  83  85
 88  88  89  88  88  88  88  87  88  86  89  91  87  78  80  76
 62  60  64  62  60  62  60  60  60  60  61  61  60  62  62  69
 82  84  81  78  85  87  88  83  82  67  60  61  70  80  74  67
 61  68  78  74  71  75  72  75  73  78  71  67  65  74  76  77
 68  60  67  62  61  73  69  60  64  63  62  62  62  61  60  64
 62  61  65  63  61  61  60  61  67  60  68  66  56  79  78  80
 71  74  74  60  69  70  74  83  82  84  83  80  79  79  60  60
 60  60  60  60  62  65  71  65  74  80  75  85  85  83  79  60
 62  60  75  82  82  82  79  83  87  85  84  86  87  82  79  82
 81  84  65  75  73  73  77  75  78  67  79  74  63  69  75  74
 76  76  73  68  72  62  62  60  61  62  61  60  65  77  56  62
 60  68  64  73  63  62  64  65  62  71  69  73  68  63  72  71
 74  67  71  69  71  66  71  78  70  70  60  65  73  76  69  71
 79  75  71  75  77  74  67  74  78  82  78  72  65  72  68  70
 73  65  69  60  60  64  61  76  73  73  62  60  60  77  83  84
 82  83  83  82  83  83  82  82  82  82  81  77  64  83  83  82
 77  79  79  79  61  80  76  82  66  67  60  60  60  68  82  67
 71  74  60  60  63  85  62  73  78  79  77  77  80  77  79  80
 81  80  69  75  68  56  65  64  61  62  62  61  63  65  65  65
 60  61  60  60  63  84  80  73  79  75  78  77  76  91  78  64
 70  60  60  73  78  63  72  77  69  67  67  79  71  72  75  60
 64  77  77  61  76  78  79  66  67  76  89  81  81  83  82  82
 82  82  80  82  75  76  67  65  64  65  66  65  73  62  57  66
 67  65  63  66  69  66  62  60  60  60  60  62  64  66  69  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : ILL+
ENTER USER CODE (4 CHARS) : 0441
 ENTER JOB CODE (3 CHARS) : 031


    DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
          LOGGER : DB-301/26                     SITE CODE : "ILL+
   SERIAL NUMBER : 1225                           JOB CODE : 031
        BASELINE : 60 DB                         USER CODE : 0441
   DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                  STANDBY TIME =   1:11: 4

              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

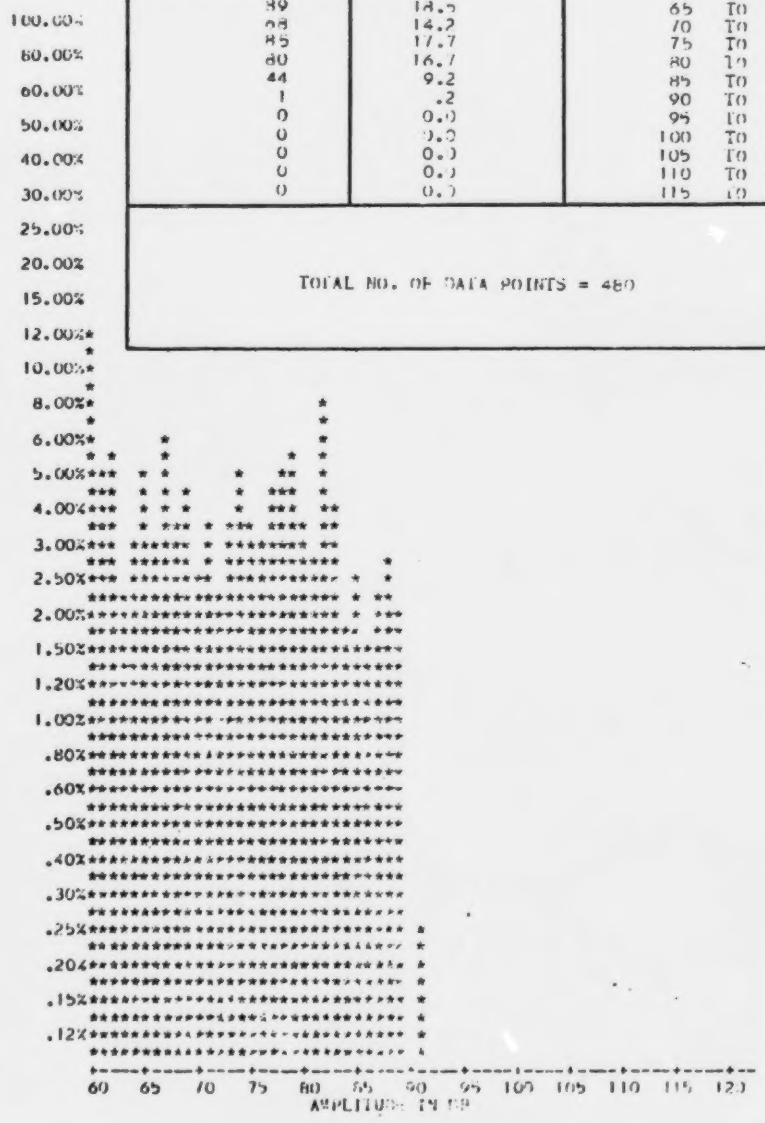
TIME              LOSHA                         %DOSE
HOUR      CURRENT  CUMULATIVE          CURRENT  CUMULATIVE
   1        82.0       82.0              4.140      4.14
   2        80.5       81.3              3.34[illegible]      7.48
   3        74.3       79.6              1.414      8.90
   4        78.1       79.3              2.386     11.28
   5        71.7       78.3               .994     12.28
   6        77.7       78.2              2.271     14.55
   7        74.3       77.7              1.421     15.97
   8        74.7       77.4              1.4[illegible]     17.46
MIN. COMP. =  60 DB                  MAX. COMP. =  91 DB
ARITHMETIC MEAN =  72 DB
STD. DEVIATION =   [illegible]
VARIANCE = 61 DB
```

(71)

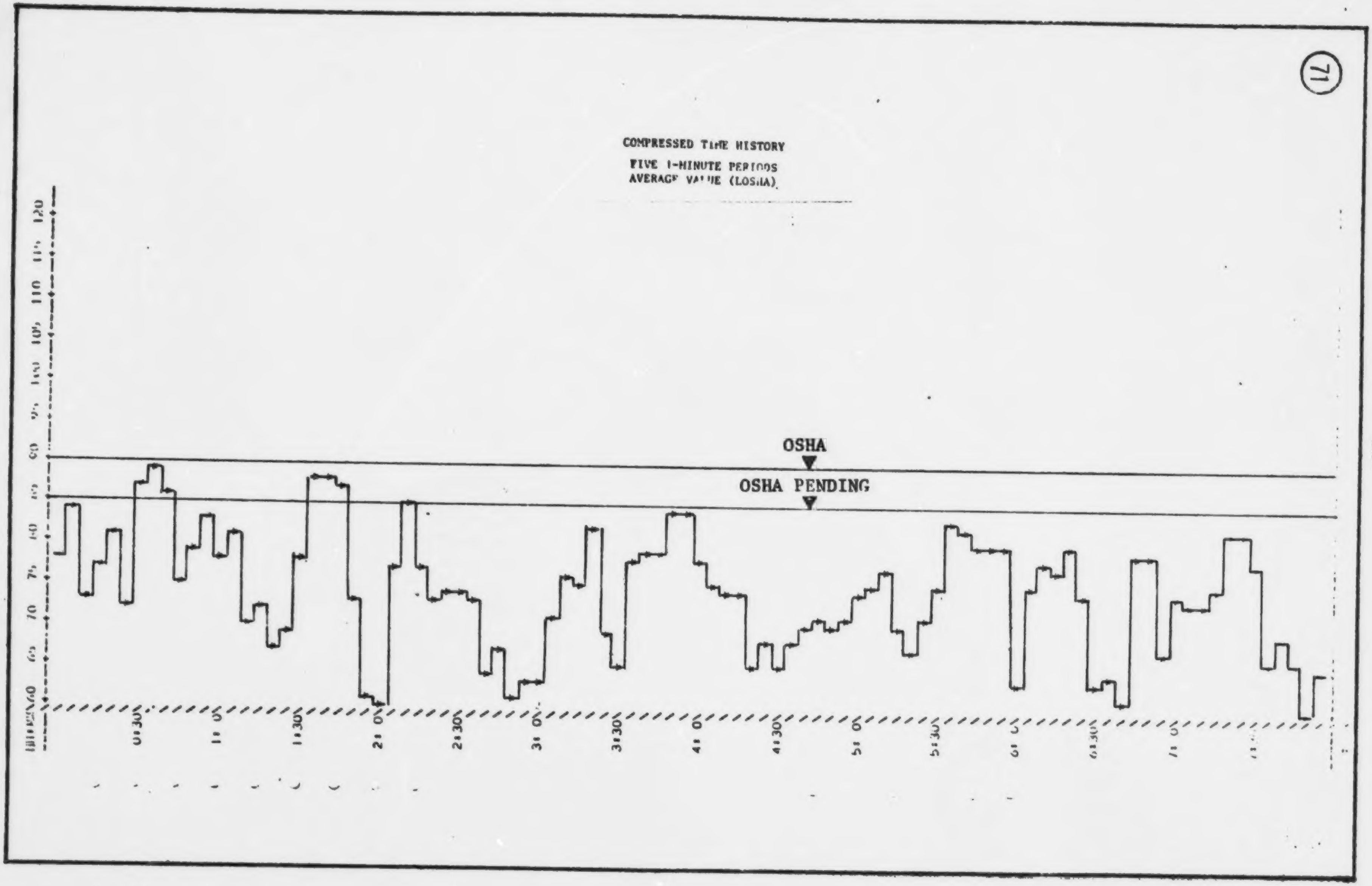
AMPLITUDE DISTRIBUTION

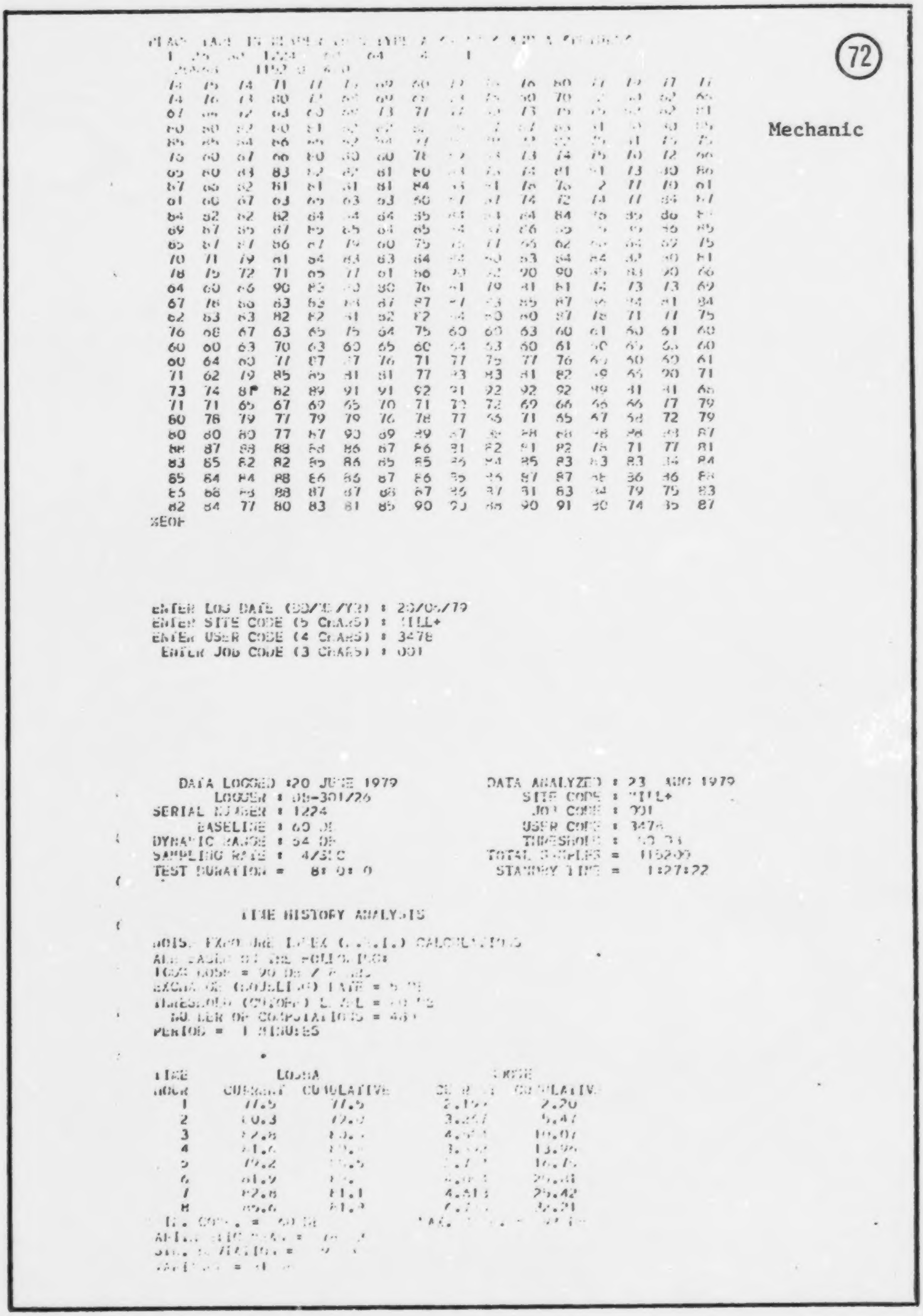
FREQUENCY DISTRIBUTION				
FREQUENCY		GROUP		
NUMBER	PER CENT			
113	23.5	60	TO	64
89	18.5	65	TO	69
68	14.2	70	TO	74
85	17.7	75	TO	79
80	16.7	80	TO	84
44	9.2	85	TO	89
1	.2	90	TO	94
0	0.0	95	TO	99
0	0.0	100	TO	104
0	0.0	105	TO	109
0	0.0	110	TO	114
0	0.0	115	TO	119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480


71
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
UNDER 60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0



(72)

Mechanic

```
[illegible]
 1  25  [illegible]  1224  [illegible]  64   4   1
 [illegible]   1152 0  6 0
 74  75  74  71  77  75  69  60  77  75  76  80  77  79  77  77
 74  76  73  80  77  67  69  67  73  75  90  70  72  63  62  66
 67  66  72  63  63  66  73  71  72  63  73  75  65  62  62  81
 80  80  82  80  81  82  82  86  [illegible]  82  87  85  81  85  80  85
 85  85  84  86  85  82  84  77  [illegible]  [illegible]  83  82  75  81  75  75
 75  60  67  66  80  60  60  78  72  63  73  74  75  70  72  66
 65  80  83  83  82  87  81  80  83  75  74  81  81  73  80  80
 67  66  82  81  81  81  81  84  63  81  76  76   2  77  70  61
 61  60  67  63  65  63  63  60  67  67  74  72  74  77  84  87
 64  62  62  62  64  64  64  65  63  64  64  84  75  85  80  8[illegible]
 69  67  65  67  85  85  64  65  64  67  86  65  [illegible]  65  95  85
 65  67  87  66  67  79  60  75  75  77  66  62  65  64  65  75
 70  71  79  61  64  63  63  64  64  60  63  64  84  82  90  81
 78  75  72  71  65  77  61  66  70  62  90  90  85  83  90  66
 64  60  66  90  83  60  80  76  61  79  81  81  74  73  73  69
 67  78  66  63  63  63  87  87  67  63  85  87  66  84  81  84
 62  63  63  82  82  61  62  82  64  60  60  87  76  71  77  75
 76  68  67  63  65  75  64  75  60  60  63  60  61  60  61  60
 60  60  63  70  63  60  65  60  64  63  60  61  60  65  65  60
 60  64  60  77  87  77  76  71  77  75  77  76  60  60  60  61
 71  62  79  85  85  81  81  77  83  83  81  82  79  66  90  71
 73  74  8P  82  89  91  91  92  91  92  92  92  89  81  81  66
 71  71  65  67  69  65  70  71  72  72  69  66  66  66  77  79
 60  78  79  77  79  79  76  78  77  65  71  65  67  68  72  79
 80  80  80  77  87  90  89  89  87  86  88  88  88  88  83  87
 88  87  88  88  88  86  87  86  91  82  81  82  76  71  77  81
 83  65  82  82  85  86  85  85  86  84  85  83  83  83  84  84
 65  64  84  88  86  86  87  86  85  85  87  87  85  86  86  88
 85  88  83  88  87  87  88  87  86  87  81  83  84  79  75  83
 82  84  77  80  83  81  85  90  90  88  90  91  90  74  85  87
%EOF


ENTER LOG DATE (DD/MM/YY) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 3478
 ENTER JOB CODE (3 CHARS) : 001


   DATA LOGGED :20 JUNE 1979            DATA ANALYZED : 23  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : MILL+
 SERIAL NUMBER : 1224                        JOB CODE : 001
      BASELINE : 60 DB                      USER CODE : 3478
 DYNAMIC RANGE : 54 DB                      THRESHOLD : [illegible]
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   1:27:22

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 48[illegible]
PERIOD = 1 MINUTES

TIME           LOSHA                       DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1       77.5      77.5            2.19[illegible]      2.20
   2       80.3      79.[illegible]            3.2[illegible]7      5.47
   3       82.8      8[illegible]            4.[illegible]      10.07
   4       81.6      8[illegible]            3.[illegible]      13.9[illegible]
   5       79.2      [illegible].5            [illegible].7[illegible]      16.7[illegible]
   6       81.9      8[illegible]            [illegible]      2[illegible]
   7       82.8      81.1            4.81[illegible]      25.42
   8       85.6      81.9            7.7[illegible]      3[illegible].21
 [illegible] = [illegible]          [illegible]
ARI[illegible] = [illegible]
S[illegible] = [illegible]
[illegible] = [illegible]
```

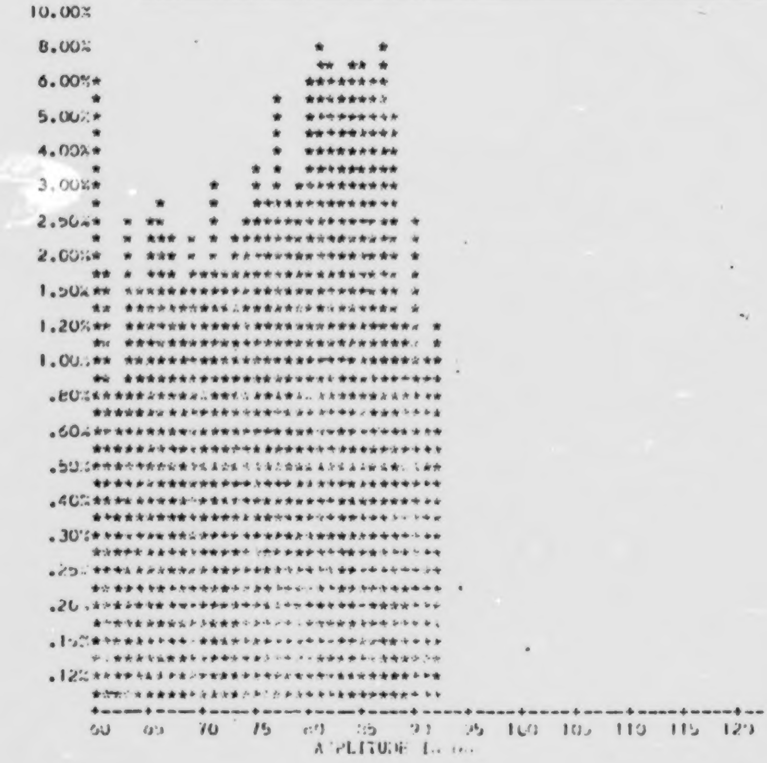
(72)

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
52	10.8	60 TO 64
45	9.4	65 TO 69
45	9.4	70 TO 74
72	15.0	75 TO 79
138	28.8	80 TO 84
109	22.7	85 TO 89
19	4.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

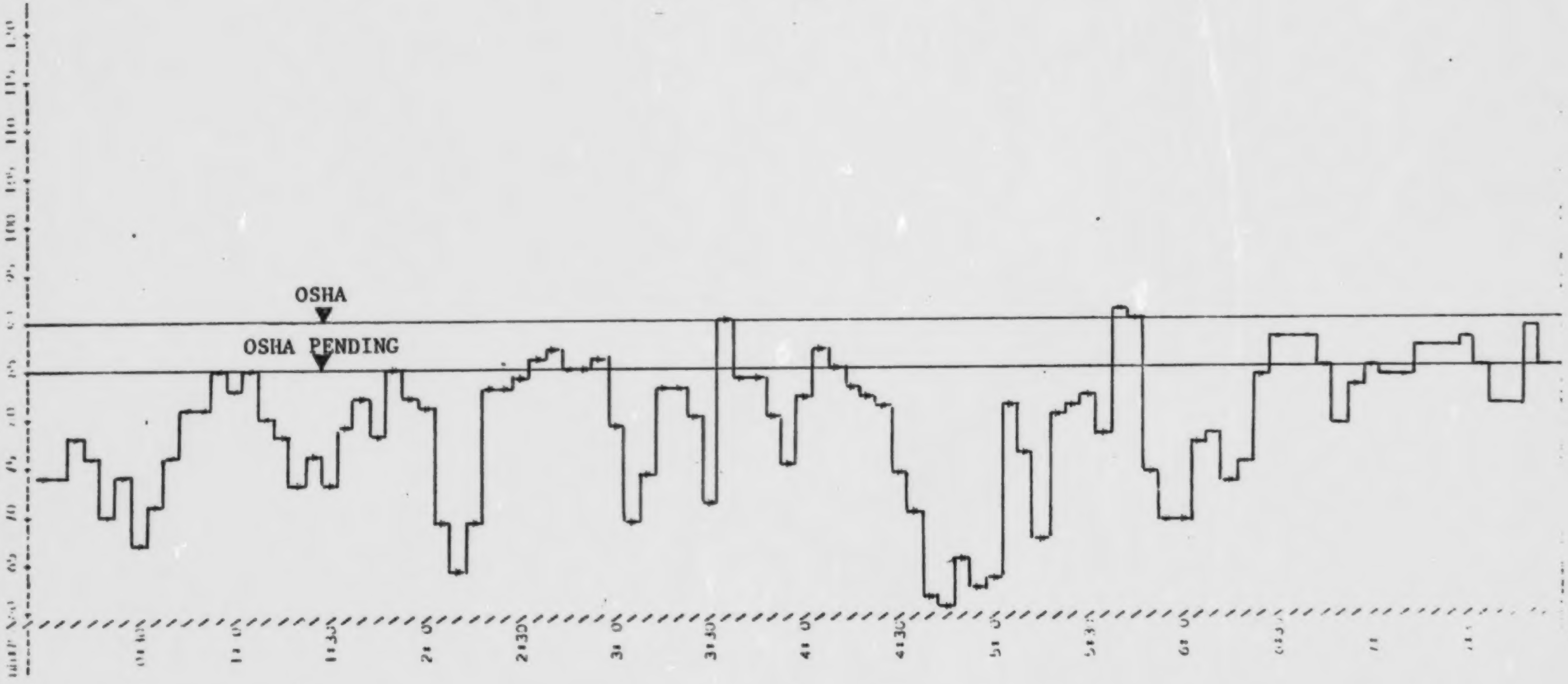
TOTAL NO. OF DATA POINTS = 480



Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



72

(73)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A 'SPACE' AND A 'RETURN'

  1   26   80   1224    60    64     4     1
   14032      115168   479
  80  82  84  84  83  86  82  84  85  86  84  85  77  87  80  82
  84  81  83  83  82  82  81  82  79  86  77  89  88  94  90  89
  89  72  72  74  74  75  77  77  82  81  82  83  81  93  88  86
  87  85  83  83  84  85  84  84  87  87  86  85  84  87  86  85
  85  83  83  85  83  83  83  82  80  83  86  84  85  88  87  87
  87  87  87  87  87  89  86  89  87  87  90  89  88  87  90  87
  88  87  87  87  88  89  88  90  89  88  88  87  87  86  86  86
  87  88  82  72  77  75  65  61  60  60  60  60  60  60  60  60
  60  68  60  84  60  77  70  80  85  86  90  87  86  88  88  87
  86  86  85  87  86  82  62  86  93  91  90  95  92  87  84  67
  71  89  92  89  83  76  82  84  88  60  65  83  83  84  84  79
  88  88  93  93  94  94  94  94  95  94  94  94  93  95  91  85
  71  75  62  78  87  83  92  93  92  91  81  83  84  84  85  80
  80  76  80  87  85  85  83  83  81  73  74  82  85  82  83  83
  83  85  93  84  63  83  84  86  88  86  70  81  88  86  86  83
  81  81  82  85  81  70  79  67  63  66  62  67  63  64  68  72
  79  67  71  71  69  63  61  67  68  60  60  60  60  62  63  62
  60  68  72  70  69  77  74  73  72  70  73  65  75  77  82  68
  86  86  82  82  81  81  81  82  82  79  88  90  88  82  83  83
  82  83  64  84  84  84  75  69  81  80  79  81  93  96  92  85
  83  87  69  62  60  60  60  60  60  80  64  80  80  61  83  82
  82  74  80  77  82  82  78  72  65  80  84  83  83  85  84  83
  85  82  82  83  84  83  87  72  86  82  83  81  82  78  76  84
  82  82  82  83  85  84  84  84  83  88  74  77  86  78  80  67
  60  70  81  81  85  88  81  85  83  74  82  80  83  83  78  82
  62  82  82  83  83  82  81  76  68  69  75  74  80  82  85  88
  65  87  96  87  87  84  83  85  77  62  64  62  63  62  60  63
  64  83  83  79  79  82  73  77  90  74  72  66  72  81  70  60
  61  68  66  66  81  80  79  66  83  85  83  86  85  85  83  81
  81  81  84  87  85  81  82  83  89  92  89  87  92  87  73  60
%EOF



ENTER LOG DATE (MD/MM/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILLO
ENTER USER CODE (4 CHARS) : 0205

 ENTER JOB CODE (3 CHARS) : 172



   DATA LOGGED :21 JUNE 1979          DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                SITE CODE : MILLO
 SERIAL NUMBER : 1224                      JOB CODE : 172
      BASELINE : 60 DB                    USER CODE : 0205
 DYNAMIC RANGE : 64 DB                    THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC               TOTAL SAMPLES =  115168
 TEST DURATION =   7:59:52             STANDBY TIME =   0:58:28

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 479
PERIOD =  1 MINUTES

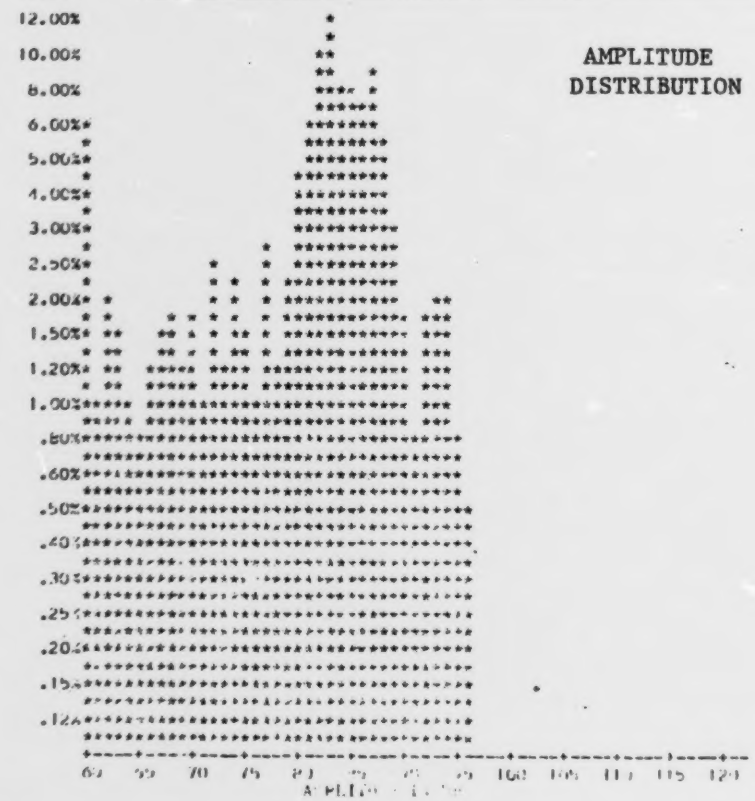
TIME          LOSHA                        %DOSE
HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
  1        84.7      84.7            5.981      5.98
  2        86.2      85.5            7.374     13.36
  3        85.4      85.4            6.562     19.92
  4        87.5      86.0            8.438     27.76
  5        77.0      84.9            2.963     30.72
  6        82.6      84.6            4.482     35.30
  7        82.8      84.3            4.414     39.62
  8        81.6      84.1            3.846     43.75
MIN. COMP. =  60 DB                MAX. COMP. =  95 DB
ARITHMETIC MEAN =  80 DB
STD. DEVIATION =   9 DB
VARIANCE = [illegible]
```

(73)

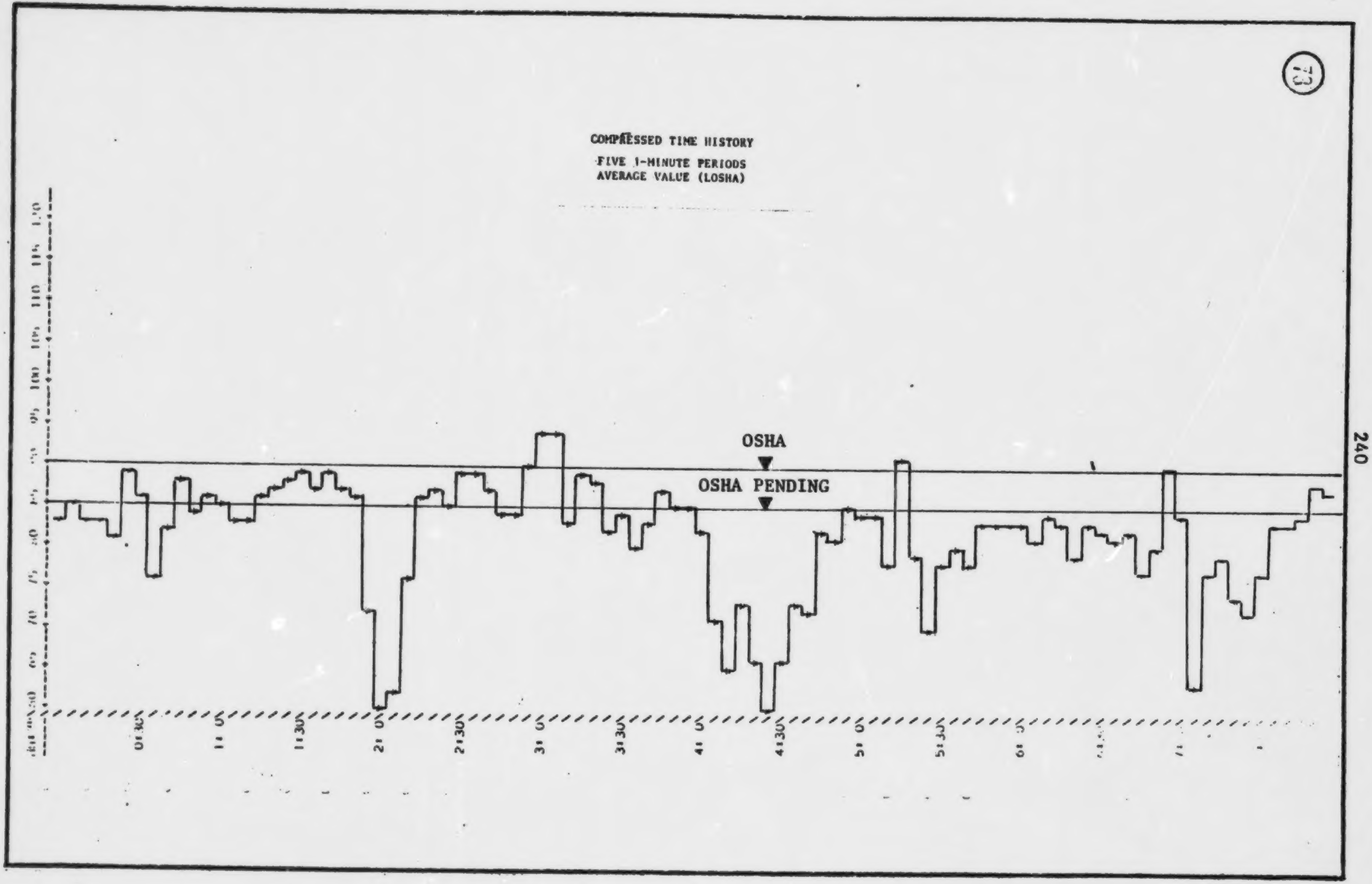
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
47	9.8	60 TO 64
26	5.4	65 TO 69
35	7.3	70 TO 74
35	7.3	75 TO 79
168	35.0	80 TO 84
131	27.3	85 TO 89
33	6.9	90 TO 94
5	1.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

AMPLITUDE DISTRIBUTION



Number of computations = 479



(73)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(74)

Mechanic

```
PLACE TAPE IN READER AND TYPE [illegible]
 1  20  60  1216  [illegible]  64  [illegible]  1
  210431    115200  480
 73  74  81  70  71  67  68  76 [illegible] 81 [illegible] 80  78  77  77  73
 89  72  75  79  84  81  81  78  77  78  78  79 [illegible] 82  81  83
 82  83  86  85  84  84  84  84  84  81  84  84 [illegible] 84 [illegible] 81
 84  84  84  85  84  85  86  85  85  85  85  85  86  85  85  85
 85  84  85  84  85  85  86  85  84  85  86  85  84  85  85  85
 85  86  85  84  84  85  86  85  85  85  86  85  86  86  86  85
 84  86  85  84  85  84  85  85  85  85  85  85  86  85  85  84
 85  85  85  87  89  86  89  89  85  85  84  84  84  84  87  83
 83  83  83  85  84  86  84  84  83  83  83  83  84  83  84  84
 84  83  84  83  84  84  83  85  84  84  84  85  85  84  84  84
 84  84  84  84  84  85  84  85  84  83  83  83  84  84  84  84
 84  84  85  84  85  84  85  86  86  85  85  85  84  85  84  85
 84  86  85  84  84  85  84  85  84  85  83  83  83  86  86  86
 86  87  87  86  87  87  86  85  87  87  87  87  87  86  87  87
 87  87  86  87  86  86  86  86  86  86  86  86  86  86  86  87
 87  86  87  87  87  86  87  89. 86  85  85  85  85  86  85  86
 86  86  86  86  85  86  86  86  85  86  85  86  86  86  85  86
 85  85  85  86  85  85  85  85  85  85  85  85  85  85  85  85
 85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
 85  85  85  85  85  85  85  85. 85  85  85  85  85  85  85  85
 86  86  85  85  85  86  85  86  86  86  85  86  85  86  85  85
 85  86  86  86  86  85  85  86  85  85  85  86  85  85  85  85
 85  86  85  85  85  86  86  86  85  86  85  86  85  85  85  85
 85  85  85  85  85  85  85  86  85  85  85  85  85  85  85  85
 85  85  85  85  85  85  85  85  85  85  85  85  85  86  85  86
 85  85  85  85  85  86  86  85  86  86  85  86  85  86  85  86
 85  86  85  85  86  85  85  85  85  86  85  86  85  85  85  85
 84  85  84  85  84  85  84  85  84  85  84  85  84  85  84  85
 84  85  85  85  85  86  86  85  85  85  85  85  84  85  84  85
 84  85  84  85  84  85  85  85  86  85  85  85  85  85  85  86
%EOF



ENTER LOG DATE (DY/MO/YR) : 21/06/79
ENTER SITE CODE (5 CHARS) : MILLE

ENTER USER CODE (4 CHARS) : 7032
 ENTER JOB CODE (3 CHARS) : 001



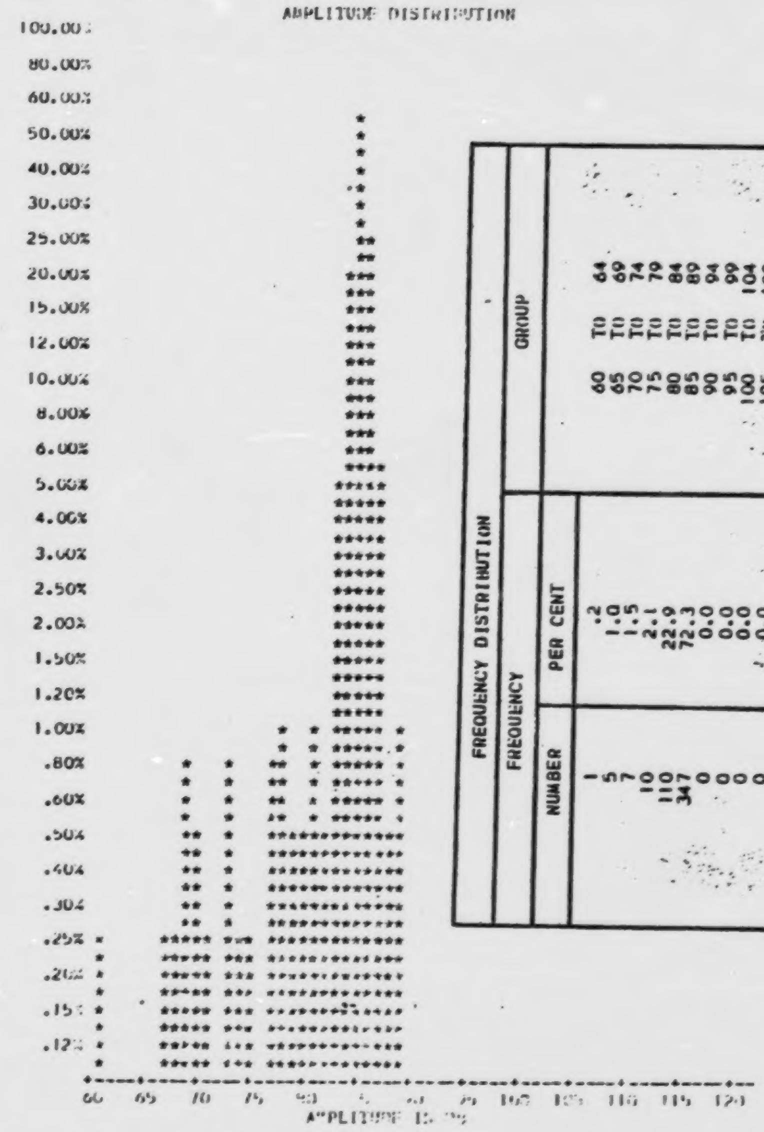
     DATA LOGGED :21 JUNE 1979             DATA ANALYZED : 24  AUG 1979
          LOGGER : CB-301/26                    SITE CODE : MILLE
  SERIAL NUMBER : 1216                          JOB CODE : 001
        BASELINE : 60 DB                        USER CODE : 7032
  DYNAMIC RANGE : 64 DB                        THRESHOLD : 80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                  STANDBY TIME =   1:25: 7

              TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOGHA                    %DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT   CUMULATIVE
   1       81.5       81.5         [illegible]     3.84
  ·2       85.4       83.7         6.591      10.43
   3       [illegible].1       83.8         [illegible]     15.[illegible]
   4       [illegible].7       [illegible].3         [illegible]     [illegible]
   5       [illegible].6       [illegible].6         [illegible]     [illegible].1
   6       85.3       84.7         6.5[illegible]     36.14
   7       85.3       84.8         [illegible]     [illegible]
   8       [illegible]       [illegible]         [illegible]     [illegible]
[illegible] = 61 DB              [illegible] = [illegible]
[illegible] = 84 DB
[illegible] = [illegible]
[illegible]
```

(74)

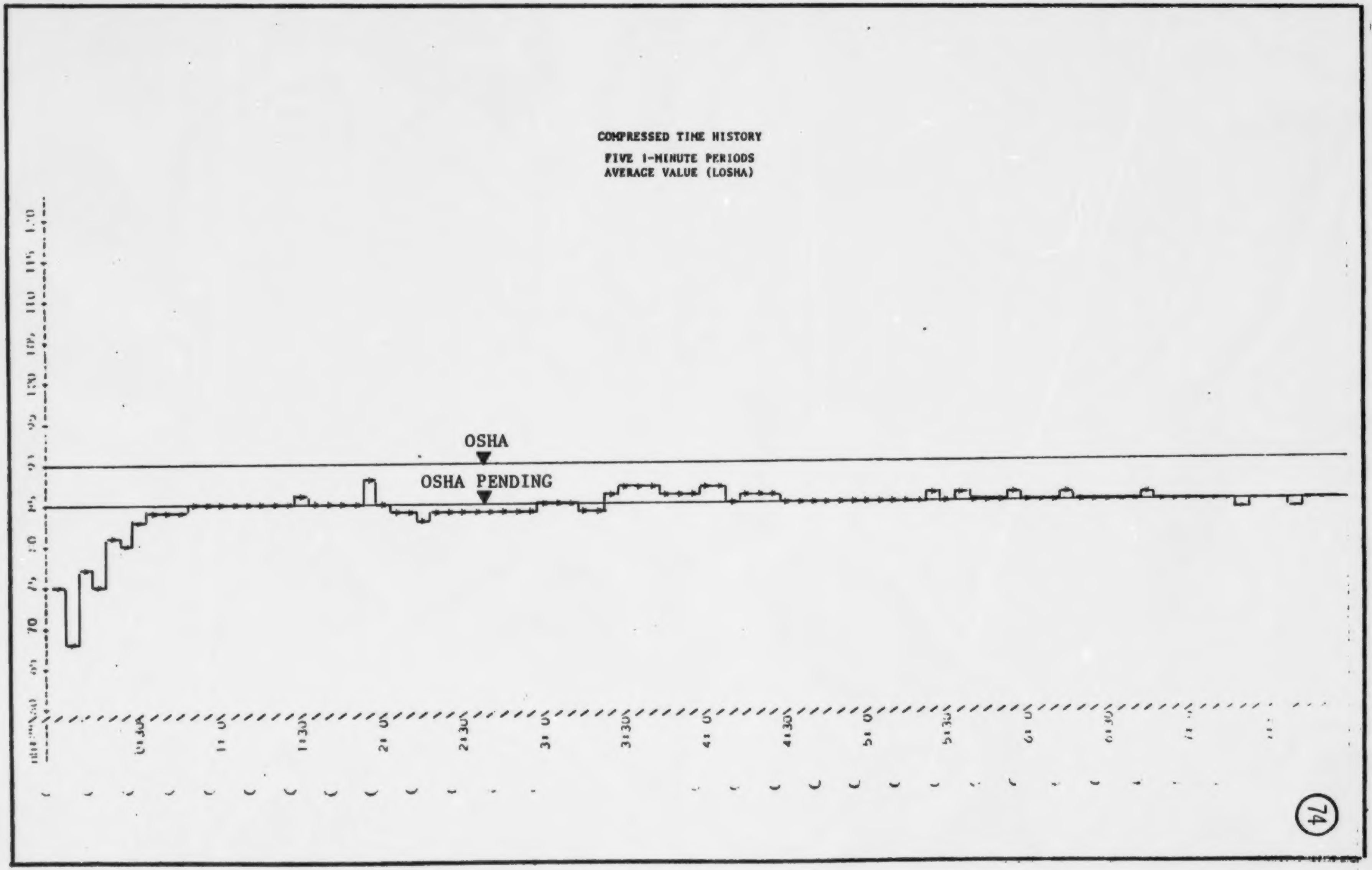


FREQUENCY DISTRIBUTION

FREQUENCY NUMBER	FREQUENCY PER CENT	GROUP
1	.2	60 TO 64
5	1.0	65 TO 69
7	1.5	70 TO 74
10	2.1	75 TO 79
110	22.9	80 TO 84
347	72.3	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0		115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(74)

(75)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A [illegible]
 1  25  80  1215   61   64    4      1
  25395     104584   4.85
 80  76  76  75  75  75  79  77  73  69  67  67  77  71  74  82
 81  82  84  84  83  68  69  80  82  78  79  79  84  76  83  84
 80  80  81  83  81  80  81  76  78  81  82  80  81  80  82  83
 84  83  83  82  85  83  80  80  81  84  83  82  83  76  78  78
 75  70  71  66  70  72  78  79  77  80  79  80  81  81  81  82
 82  81  80  80  77  80  78  81  79  80  80  81  81  81  81  73
 76  82  81  73  69  69  75  80  84  83  83  83  84  83  83  83
 73  70  75  76  69  76  76  77  79  78  83  82  74  75  79  81
 83  80  83  82  71  81  75  92  94  95  89  86  92  95  86  77
 76  76  81  83  82  81  83  82  95  79  82  78  80  76  83  81
 77  74  77  79  75  68  65  62  67  67  78  78  79  72  78  64
 66  60  60  75  74  79  81  74  72  93  83  82  83  82  93  82
 82  82  82  82  82  82  82  82  82  87  83  82  83  83  84  85
 85  84  84  84  85  82  81  81  84  81  82  81  81  81  81  81
 81  81  81  81  81  82  81  81  82  81  81  81  81  81  81  81
 81  80  80  80  80  80  80  80  80  80  80  80  80  80  80  80
 81  80  81  80  80  80  80  80  80  80  80  80  80  80  80  80
 80  81  80  80  80  80  80  80  80  80  79  79  80  80  80  79
 80  80  80  80  80  80  80  80  80  80  80  80  80  80  80  80
 80  80  80  80  80  80  80  80  80  80  80  80  80  80  80  81
 80  80  80  80  81  81  81  81  81  81  81  82  82  82  82  81
 85  84  83  83  84  84  84  84  84  84  84  84  84  84  84  84
 85  85  84  84  84  84  84  84  84  84  84  84  84  84  85  84
 85  84  84  85  83  83  85  83  83  83  85  84  84  84  84  84
 83  83  83  83  83  83  83  83  83  83  83  83  83  84  84  84
 80  74  79  72  74  73  74  78  80  69  75  73  71  75  81  76
 72  75  74  80  74  75  74  75  69  75  78  76  67  72  75  75
 72  79  81  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
D


ENTER LOG DATE (MD/MM/YR) : 22/06
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0751
 ENTER JOB CODE (3 CHARS) : 011

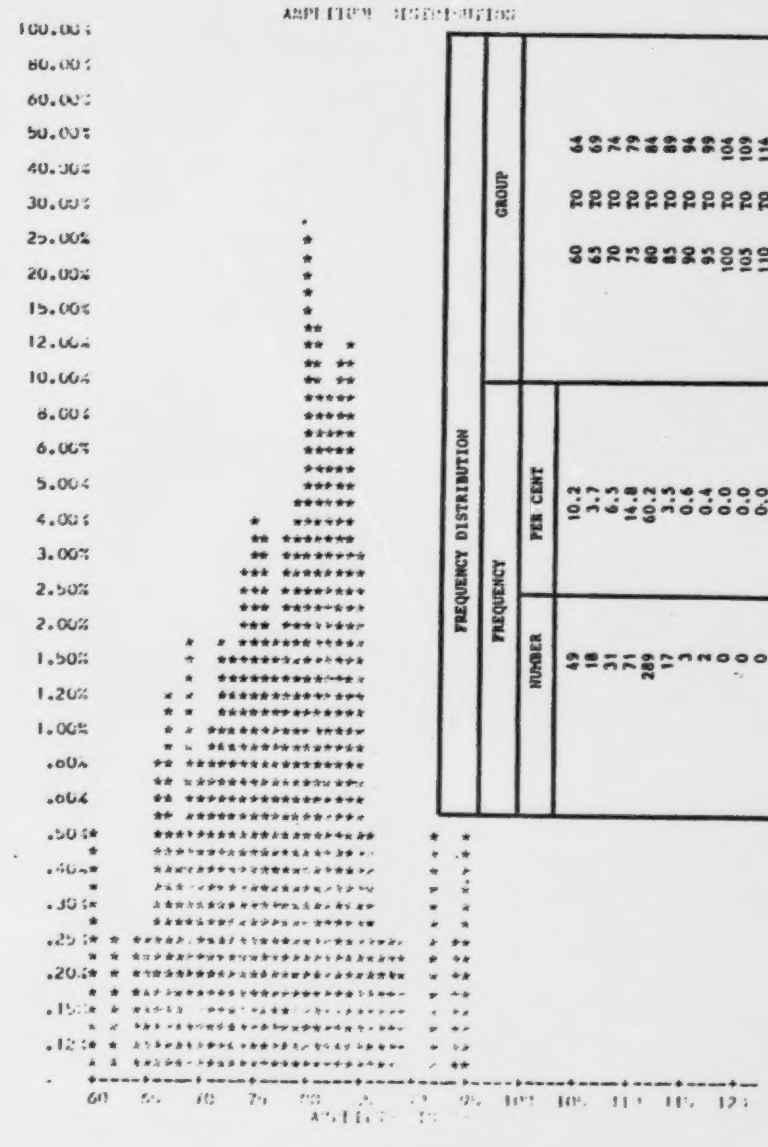

    DATA LOGGED :22 JUNE 1900              DATA ANALYZED : 24  AUG 1979
         LOGGER : 08-301/26                     SITE CODE : MILL+
  SERIAL NUMBER : 1215                           JOB CODE : 011
       BASELINE : 50 DB                         USER CODE : 0751
  DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  104584
  TEST DURATION =    7:15:46                 STANDBY TIME =   1:45:46

            TIME HISTORY ANALYSIS

  NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
  ARE BASED ON THE FOLLOWING:
  100% DOSE = 90 DB / 8 HRS
  EXCHANGE (DOUBLING) RATE = 5 DB
  THRESHOLD (CUTOFF) LEVEL = 80 DB
    NUMBER OF COMPUTATIONS = 4[illegible]
  PERIOD =  1 HOURS

  TIME          LOSHA                      %DOSE
  HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
    1        79.1      79.3          3.27      3.27
    2        79.1      79.7          3.75      [illegible]
    3      [illegible] [illegible]   [illegible] [illegible]
    4        82.1      81.1          4.1[illegible]7    1[illegible].47
    5        80.0      80.9          3.13      17.61
    6      [illegible] [illegible]   [illegible]  21.[illegible]
    7        82.0      81.2          [illegible]  2[illegible].91
    8        75.4      81.1          .9[illegible]  [illegible]
  [illegible]                          [illegible]
  [illegible]
  [illegible]
  [illegible]
```

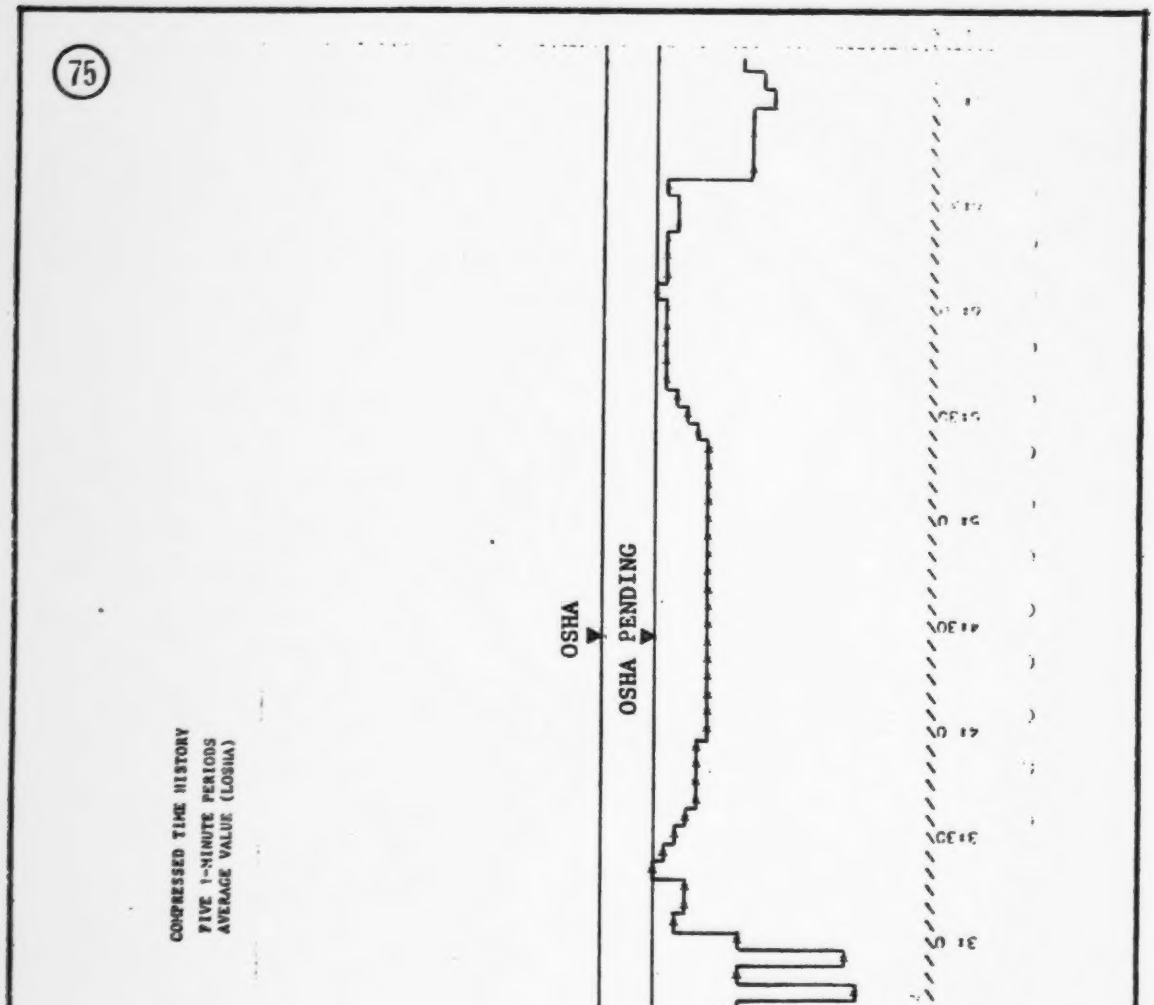
(75)



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
49	10.2	60 TO 64
18	3.7	65 TO 69
31	6.5	70 TO 74
71	14.8	75 TO 79
289	60.2	80 TO 84
17	3.5	85 TO 89
3	0.6	90 TO 94
2	0.4	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 435


75
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
10:30
11:0
11:30
12:0
12:30
13:0
13:30
14:0
14:30
15:0
15:30
16:0
16:30

⑯

Mechanic

```
PEAK TAPE [illegible]
 1 [illegible] [illegible] 1221   60   64   [illegible]   1
  [illegible]   10[illegible]3   444
  77   75   73   [illegible]   73   80   [illegible]   72   [illegible]   75   [illegible]   72   [illegible]   73   [illegible]   [illegible]
  74   61   [illegible]   71   73   74   [illegible]   [illegible]   [illegible]   87   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  84   85   86   85   [illegible]   87   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]
  65   66   90   85   84   86   86   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   91   91
  91   92   93   93   92   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   91   91   92
  91   [illegible]   77   75   [illegible]   83   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   74   [illegible]   70
  60   66   [illegible]   60   60   60   60   60   60   60   60   60   [illegible]   60   60   60
  60   60   [illegible]   90   [illegible]   82   69   [illegible]   73   77   75   66   77   84   82   83
  91   61   80   80   [illegible]   76   82   [illegible]   [illegible]   82   [illegible]   70   67   [illegible]   71   75
  72   70   [illegible]   74   63   77   75   [illegible]   -1   [illegible]   [illegible]   80   [illegible]   [illegible]   [illegible]   91
  76   69   75   77   73   77   75   75   [illegible]   75   72   [illegible]   70   71   72   75
  70   73   72   66   60   60   63   [illegible]   [illegible]   60   60   60   60   60   60   60
  60   74   73   73   64   63   76   72   76   72   76   75   75   77   73   77
  76   79   82   80   79   74   76   75   77   75   75   75   [illegible]   71   75   71
  85   90   83   86   85   85   85   85   84   86   85   80   [illegible]   85   85   85
  85   86   85   85   85   84   85   84   [illegible]   85   85   85   [illegible]   85   [illegible]   85
  85   85   85   85   85   85   85   85   84   85   [illegible]   84   85   86   87   86
  85   85   85   85   85   85   85   86   86   86   87   89   [illegible]   87   85   86
  86   86   83   86   85   86   86   86   86   86   85   86   86   86   86   86
  86   85   84   85   88   90   89   [illegible]   89   87   89   87   87   87   87   87
  87   87   87   87   85   88   94   94   94   94   94   94   94   94   94   94
  94   94   93   93   93   93   93   93   93   92   90   90   90   90   90   90
  90   90   90   90   90   90   90   90   90   90   90   90   90   90   90   90
  90   90   90   90   90   90   90   90   90   90   90   90   90   90   90   90
  90   90   90   90   90   90   90   90   90   90   90   90   90   90   90   90
  90   90   90   90   90   90   90   90   90   90   90   90   90   90   90   90
  90   90   90   88   74   60   60   77   73   74   70   67   75   77   61   79
  77   70   80   79   77   79   76   79   78   69   77   74   75   73   73   73
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
  60   60   60   60   60   60   60   60   60   60   60   60   60   60   60   60
*EOF



ENTER LOG DATE ( MM/DD/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0213
 ENTER JOB CODE (3 CHARS) : 011



   DATA LOGGED :22 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : DS-301/25                      SITE CODE : MILL+
 SERIAL NUMBER : 1221                            JOB CODE : 011
      BASELINE : 60 DB                          USER CODE : 0213
 DYNAMIC RANGE : 34 DB                          THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  107733
 TEST DURATION =   7:28:45                   STANDBY TIME =   1:51:[illegible]

          TIME HISTORY ANALYSIS

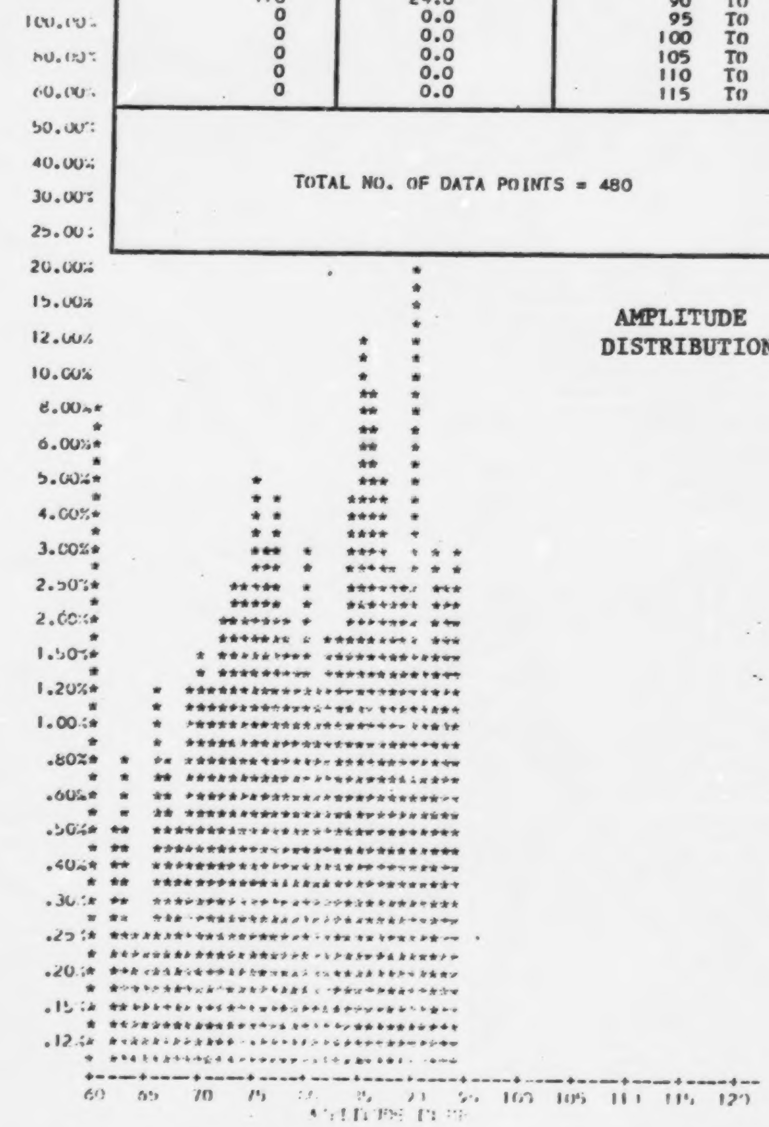
NOISE EXPOSURE L[illegible] ([illegible]) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 [illegible] / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 44[illegible]
PERIOD = 1 MINUTES


TIME          LOSA                          DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT   CUMULATIVE
   1     [illegible]3.1    [illegible]3.1          4.11        1.[illegible]1
   2     86.0     86.7           7.170       11.3[illegible]
   3     7[illegible].4     [illegible].1           2.[illegible]       1[illegible].4[illegible]
   4     7[illegible].3     [illegible].4           [illegible]         17.[illegible]
   5     [illegible]     [illegible].1           [illegible]         [illegible]
   6     90.5     [illegible]           1[illegible]         [illegible]
   7     90.0     85.9          12.459       42.93
   8     7[illegible]     [illegible]           [illegible]         51.[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

(76)

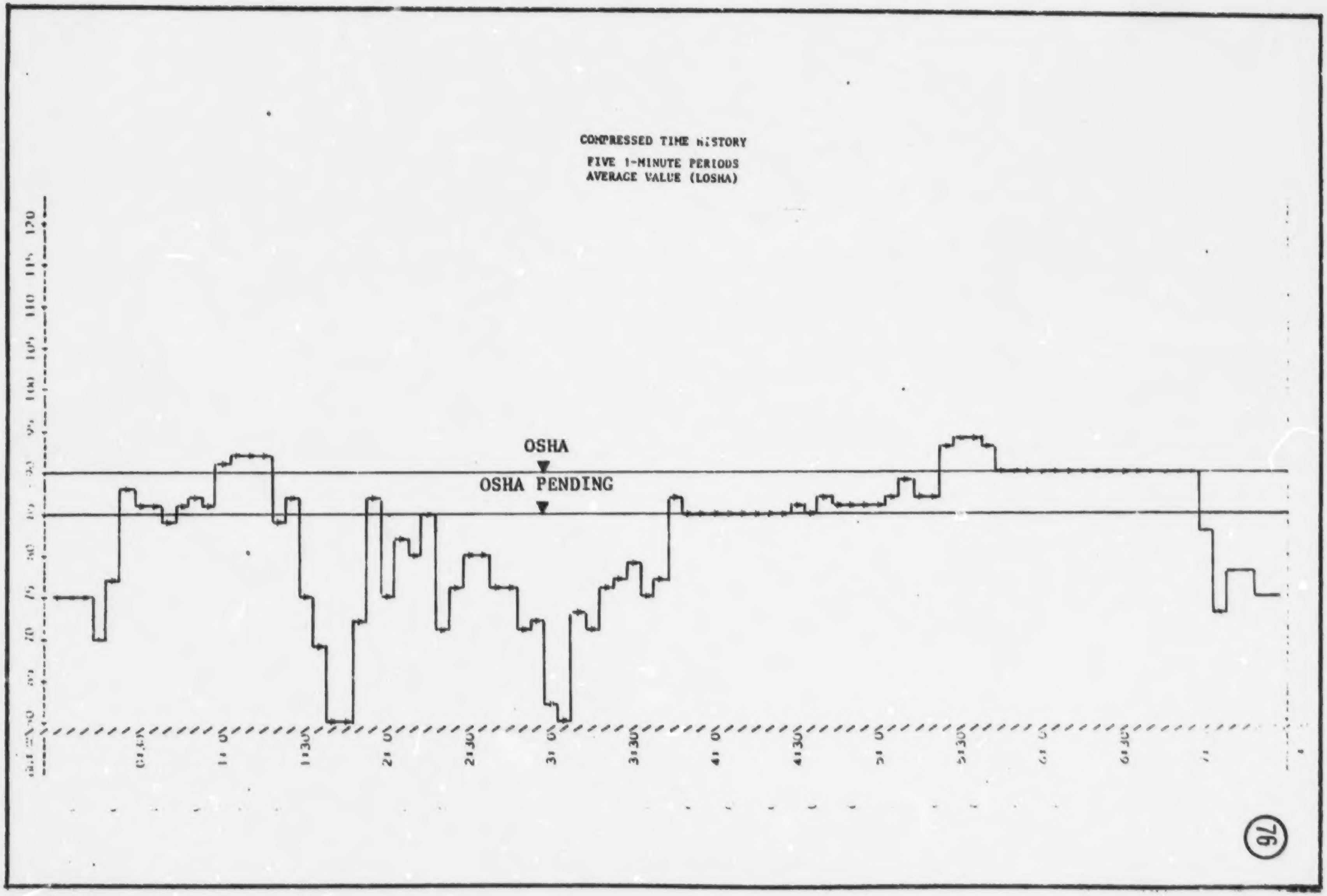
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
68	14.2	60 TO 64
16	3.3	65 TO 69
39	8.1	70 TO 74
62	12.9	75 TO 79
49	10.2	80 TO 84
128	26.7	85 TO 89
118	24.6	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 448


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
60
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7:
76

(77)

Mechanic

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[illegible]
 1  [illegible]  80  1224  [illegible]  64     4     1
 [illegible]   [illegible]  [illegible]
 76  75  74 [illegible] [illegible] 76 [illegible] 71  71 [illegible] [illegible] 77 [illegible] [illegible] 77 [illegible]
 82  82  82 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 89  87 [illegible] 85  88
 86 [illegible] 84  85 [illegible] [illegible] 81 [illegible] [illegible] [illegible] [illegible] 81  73  81  81 [illegible]
 80 [illegible] 70 [illegible] [illegible] [illegible] [illegible] 82 [illegible] [illegible] [illegible] [illegible] 87 [illegible] 91  91
 91 [illegible] 88  83  81  81  86  92  92 [illegible] 92  92  92  92  91  91
 92  92  91  91  92  92  91  91 [illegible] [illegible] 79  67  61  63  82  86
 77  67  82  81 [illegible] 83  89  89 [illegible] [illegible] [illegible] 90 [illegible] 91 [illegible] 90
 89  89  89  90 [illegible] 88  85  89 [illegible] 70 [illegible] 74  79 [illegible] [illegible] 83
 81  82  72  89  82  87  76  90 [illegible] [illegible] 70  65  73  71  70  65
 76  71  76  82  75  68  74  74  77  81 [illegible] 83  81  80  81  79
 80  77  80  71  75  77  75  75  77  74  74  71 [illegible] [illegible] 73  74
 73  73  82  82  82  85  90 [illegible] 75 [illegible] 76  73  80  79  75  76
 70  71  71  75  71  75  76  71  77  81  79  81 [illegible] 77  79  80
 78  77  81  82  80  81  78  76  75  77  75  76  73 [illegible] 59  77
 78  86  89  85  85  84  84  84  83  84  85  85  85  84  84  85
 83  85  84  84  84  84  83  84  83 [illegible] [illegible] 84 [illegible] 83  83  83
 84  83  83  84  83  83  83  84  83  83  83  83  83 [illegible] 86  85
 85  84  83  83  84  83  84  83  85 [illegible] 85  86  87  87  86  85
 85  85  85  86  85  85  85  84  85  85 [illegible] 85 [illegible] 85  85  85
 85  85  83  83  84  87  86  86  87 [illegible] [illegible] 87  86  86  86  85
 85  85  86  86  85  84  88  94  93  93  93  93  93 [illegible] 93  93
 93  93  93  92  92  92  92  92  92  92  91  89  89  89  89  89
 89  89  89  89  89  89  89  89  89 [illegible] 89  89  89  89  89  89
 89  89  89  89  89  89  89  89  89  89  89  89  89  89  89  89
 89  89  89  89  89  89  89  89  89  89  89  89  89  89  89  89
 89  89  89 [illegible] 89  89  89  89  89  89  89  89  89  89  89  89
 89  89  89  88  87  76  64  63  72  81  78  76  76  75  74  76
 73  66  73  77  64  68  69  67  72  62  79  72  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
 60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF



ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0241
 ENTER JOB CODE (3 CHARS) : 172



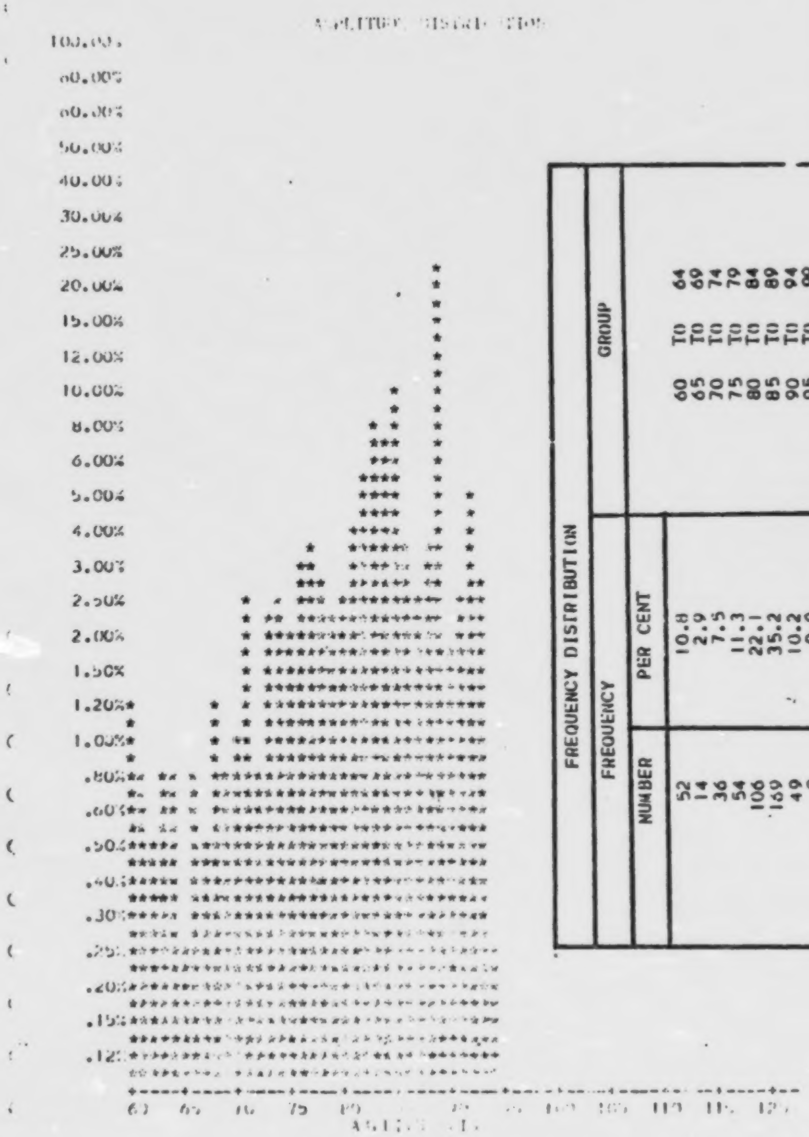
    DATA LOGGED :22 JUNE 1979              DATA ANALYZED : 24  AUG 1979
          LOGGER : [illegible]-301/26             SITE CODE : MILL+
   SERIAL NUMBER : 1224                         JOB CODE : 172
        BASELINE : 50 DB                       USER CODE : 0241
   DYNAMIC RANGE : 64 DB                       THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  106626
   TEST DURATION =    7:24:16               STANDBY TIME =   2:15:50


              TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = [illegible]
   NUMBER OF COMPUTATIONS = 444
   PERIOD = 1 MINUTE


   TIME           LOG AVG                    [illegible]
   HOUR    CURRENT  CUMULATIVE       CURRENT     CUMULATIVE
      1       81.3       81.3             4.76         4.76
      2     [illegible]  [illegible]      [illegible]    14.36
      3       79.7     [illegible]     [illegible]    17.35
      4     [illegible]  [illegible]      [illegible]  [illegible]
      5     [illegible]  [illegible]      [illegible]  [illegible]
      6     [illegible]  [illegible]      [illegible]  [illegible]
      7     [illegible]  [illegible]      [illegible]  [illegible]
      8       79.7     [illegible]     [illegible]  [illegible]
   [illegible]
   [illegible]
   [illegible]
   [illegible]
```

(77)



FREQUENCY DISTRIBUTION

GROUP			FREQUENCY NUMBER	FREQUENCY PER CENT
60	TO	64	52	10.8
65	TO	69	14	2.9
70	TO	74	36	7.5
75	TO	79	54	11.3
80	TO	84	106	22.1
85	TO	89	169	35.2
90	TO	94	49	10.2
95	TO	99	0	0.0
100	TO	104	0	0.0
105	TO	109	0	0.0
110	TO	114	0	0.0
115	TO	119	0	0.0

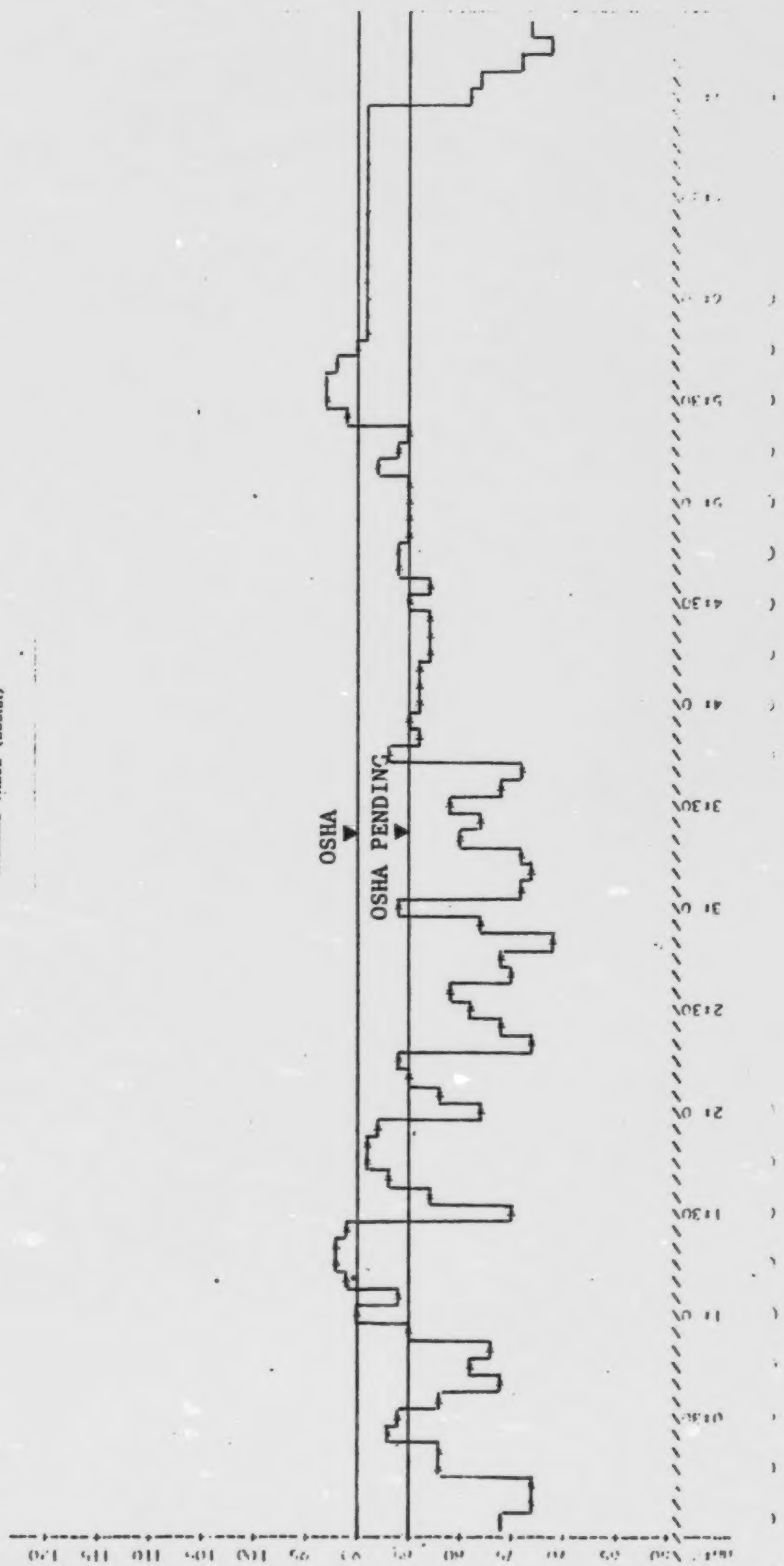
TOTAL NO. OF DATA POINTS = 480

Number of computations = 444

(77)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(78)

Mechanic

```
PLACE TAPE IN READER THEN TYPE A [illegible] AND A [illegible]

 1  26  50  1217   60   64    4    1
  1:04[illegible]   115200  [illegible]
 74  79  78  72  67  61  67  62  74  60  73  70  70  65  75  72
 76  64  78  67  65  65  67  [illegible]  73  71  76  72  [illegible]  62  67  65
 55  67  62  76  71  77  7[illegible]  72  [illegible]  71  73  74  75  72  71  69
 72  72  84  81  80  78  80  80  7[illegible]  70  61  76  72  76  75  79
 70  67  61  71  64  71  73  77  59  70  79  78  75  80  80  78
 62  62  76  67  63  69  62  63  55  61  61  64  61  60  73  77
 77  74  79  79  81  77  79  79  72  61  79  80  80  80  81  81
 82  84  89  92  92  92  69  91  91  91  90  92  90  75  75  74
 79  76  80  82  80  75  76  73  83  71  56  71  58  61  66  69
 70  67  63  60  60  63  61  65  53  75  80  60  69  60  62  80
 77  63  62  69  71  69  71  74  72  69  75  62  70  71  74  77
 93  92  94  94  94  84  53  90  [illegible]  80  84  90  81  67  89  92
 90  86  75  94  99  93  92  96  86  81  96  95  77  92  91  92
 77  97  94  77  84  82  73  67  72  76  76  68  60  64  71  75
 71  60  76  74  61  72  70  75  57  75  73  75  72  72  74  71
 73  75  74  61  65  71  72  77  78  79  59  66  81  80  71  75
 60  67  68  66  61  61  65  60  63  60  65  70  72  80  65  60
 60  63  60  69  72  67  60  62  57  54  60  71  51  50  65  64
 64  69  65  75  62  71  62  76  73  73  69  70  73  65  62  74
 76  61  70  65  74  73  65  65  61  51  70  83  83  77  77  71
 74  75  74  73  75  76  79  79  79  57  73  73  76  79  74  63
 68  72  73  70  68  63  60  62  76  73  78  77  78  75  69  71
 62  70  68  73  80  75  73  69  76  60  54  74  68  63  60  61
 65  60  66  70  62  60  70  69  57  60  63  73  71  70  69  66
 62  64  66  70  71  69  69  61  58  68  76  75  70  78  74  67
 68  60  77  76  69  60  76  80  81  60  80  80  81  81  82  76
 83  79  79  76  66  64  60  74  60  72  66  65  61  66  60  61
 65  73  71  76  81  85  54  86  82  77  78  80  61  75  77  82
 72  63  73  63  60  77  63  60  72  70  60  62  59  60  70  67
 60  71  63  66  65  63  62  82  81  80  80  71  64  74  63  62
$EOF


ENTER LOG DATE (DD/MM/YR) : 25/06/79

ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 8700
 ENTER JOB CODE (3 CHARS) : 141


   DATA LOGGED :25 JUNE 1979                DATA ANALYZED : 24  AUG 1979
        LOGGER : [illegible]-301/26                   SITE CODE : MILL+
 SERIAL NUMBER : 1217                            JOB CODE : 141
      BASELINE : 60 DB                          USER CODE : 8700
 DYNAMIC RANGE : 64 DB                          THRESHOLD : 80 DB
 SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0                 STANDBY TIME =    1: 2:13

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE  = 90 [illegible] / [illegible]
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

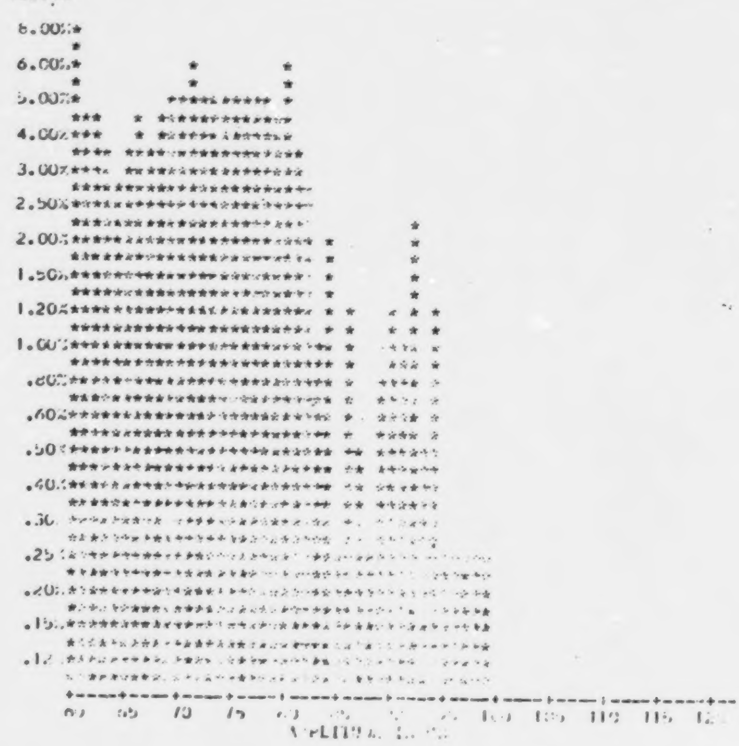
TIME          LEQ                        DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT   CUMULATIVE
  1        75.5      7[illegible]         1.[illegible]       1.20
  2        [illegible]      7[illegible]         3.1[illegible]       5.16
  3        [illegible]      7[illegible]         [illegible]       [illegible]
  4        [illegible]      82.6         7.[illegible]       15.57
  5        7[illegible]      [illegible]         [illegible]       17.42
  6        7[illegible]      [illegible]         1.[illegible]       [illegible]
  7        7[illegible]      [illegible]         1.[illegible]       [illegible]
  8        74.7      7[illegible]         1.[illegible]       21.5[illegible]
MIN. CONC. = 60 DB                  MAX. CONC. = 99 DB
[illegible]
[illegible]
[illegible]
```

(78)

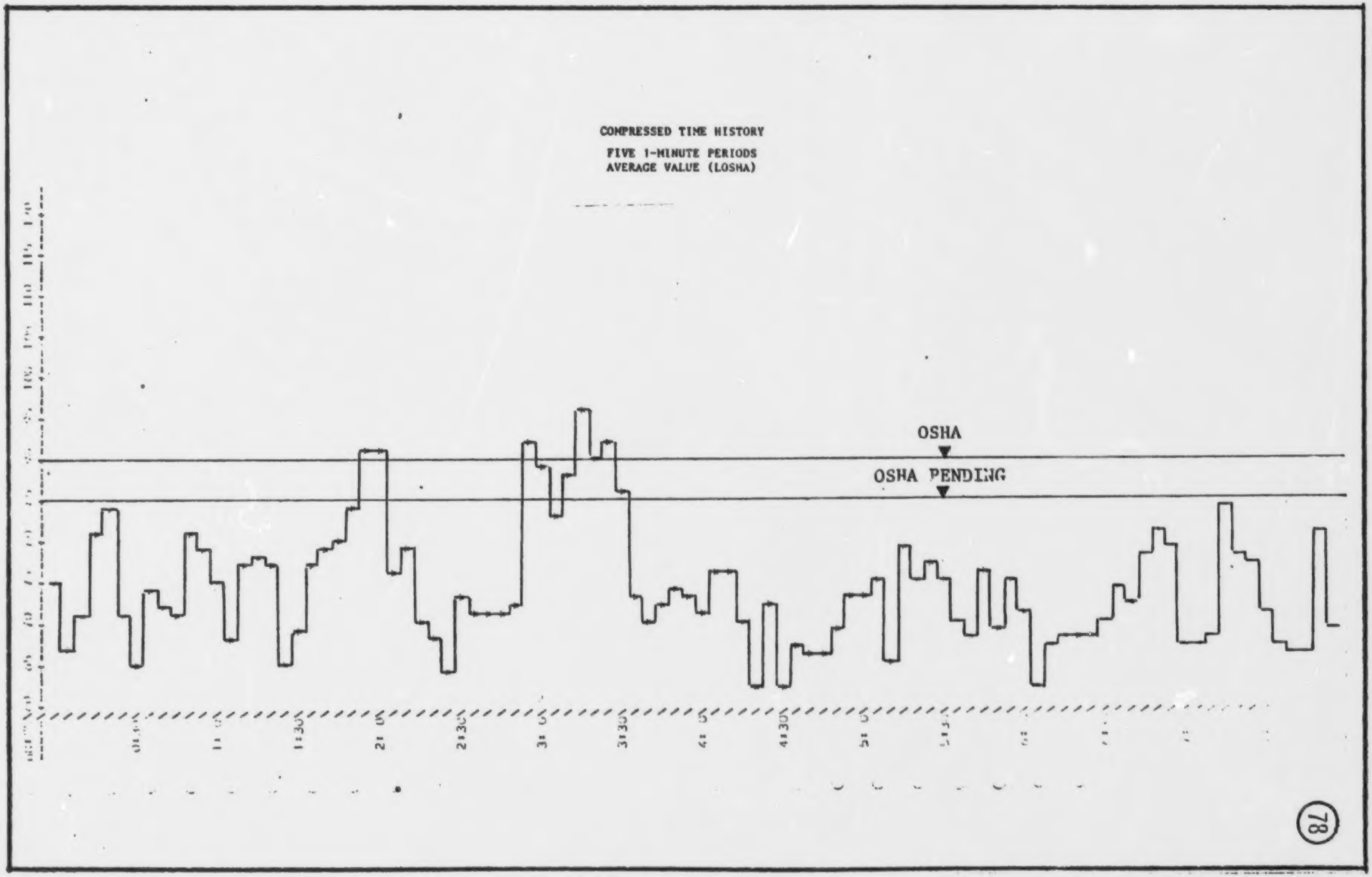
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
93	19.4	60 TO 64
83	17.3	65 TO 69
105	21.9	70 TO 74
95	19.8	75 TO 79
62	12.9	80 TO 84
12	2.5	85 TO 89
25	5.2	90 TO 94
5	1.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



Number of computations = 480



COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)

(78)

(79)

Mechanic

```
[illegible]
  1 [illegible]                                    4      1
  [illegible]
 79  83  82 [illegible]                                          83              83
 [illegible] 72  73  76  73  72  76  81 [illegible]          87  87 [illegible]  76
 75  70 [illegible] 64  84 [illegible]                   77      84  81  83
 66  67 [illegible]                      87      74  77      73
 84  65  87  90      91 [illegible]              77
 60  84      82  87  94  63          70  74       3  77  73  81
 80      91  79  60  70  77  75  75      60  63  81  81      87
 65      87  84  85  84  85  84      83      85  44  71      82
 82  85  85      86  92  83  83      83  83  84  83  83      62
 60  62  72  71  77  59  75  75  75  75  71  77  78      70  82
 77  72  72  65  81  55  76  71  79  71  75  74  75  80  74  77
 84  84  82  80  80  92  86      71  71  76  72  81  71      66
 69  73  71  67  60  60  60  62  67  60      67          97      69
 76  75  77  65  72  80  76  64      81  72  76  70  81  69  70
 60  69  69  69  65  70  75  75  73      74  63  75  35  54  88
 89  88  90  89  87  94  87  84      65          78  53  60
 69  75  77  60  77  74  79  83  72  66  76      92  31  89  82
 78  82  84  85  67  75  60  80  64  69  69  60  50  51  60  61
 60  62  73  76  70  62  60  60  61  62  70  65  63  60  65  62
 60  61  67  60  60  57  60  50  62  58  60  65  57      71  66
 64  60  67  85  88  95  66  67          93      50  80  83  82
 61  86  85  85  86  87  87  86  55              59      87  89
 85  65  81  65  75  80  81  77  75  72  75  77  73  73  73  71
 72  74  68  80  60  70  70  75  74  53  93  92  89      51  89
 65  69  67  73  88  85  64  73  53  53   2  72  75  74  75  94
 83  68  79  69  61  78  74  76  70      70  80  71  75  77  65
 72  63  69  67  72  83  60  68  64  50      73  57  69  60  60
 66  73  77  71  60  63  76  72  62  52  63  63  60  60  60  61
 62  66  67  71  67  75  76  72  85  93  90  88      86  87  84
 88  91  86  75  77  67  60  60  71  74  62  70  57  58  74  77
%EOF


ENTER LOG DATE (MO/DY/YR) : 25/05/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0470
 ENTER JOB CODE (3 CHARS) : 001



     DATA LOGGED :25 JUNE 1979                DATA ANALYZED : 24  AUG 1979
          LOGGER : DF-301/25                      SITE CODE : MILL+
   SERIAL NUMBER : 1225                            JOB CODE : 001
        BASELINE : 50 DB                          USER CODE : 0470
   DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
   SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                   STANDBY TIME =   1: 3:34

            TIME HISTORY ANALYSIS

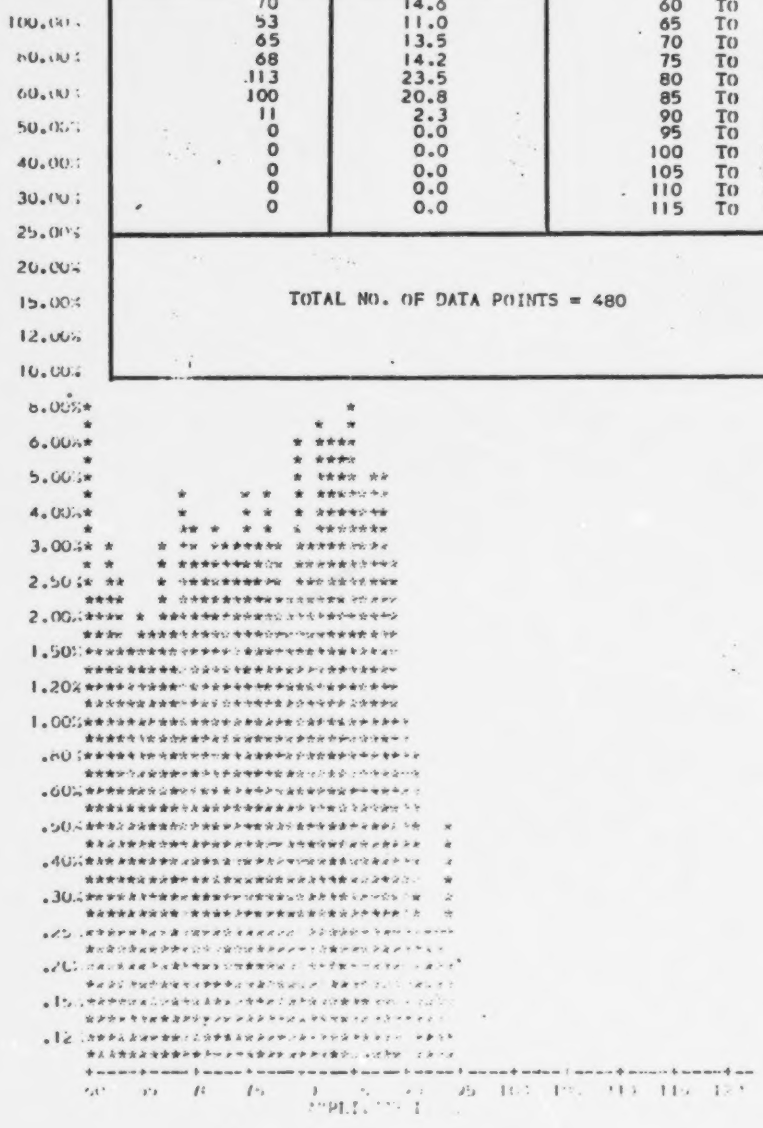
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = [illegible]
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1 MINUTES

TIME            LOG AV                              DOSE
HOUR     CURRENT   CUMULATIVE            [illegible]      CUMULATIVE
   1          [illegible]      [illegible]             [illegible]             [illegible]
   2          [illegible]        [illegible]            [illegible]            [illegible]
   3          [illegible]       [illegible]            [illegible]             [illegible]
   4          [illegible]       [illegible]            [illegible]           [illegible]
   5          [illegible]       [illegible]            [illegible]            [illegible]
   6          [illegible]       [illegible]            [illegible]             [illegible]
   7          1.0         1.1             [illegible]             [illegible]
   8          [illegible]       [illegible]             [illegible]            [illegible]
[illegible] = [illegible]                     [illegible] = [illegible]
[illegible]
[illegible]
[illegible]
```

(79)

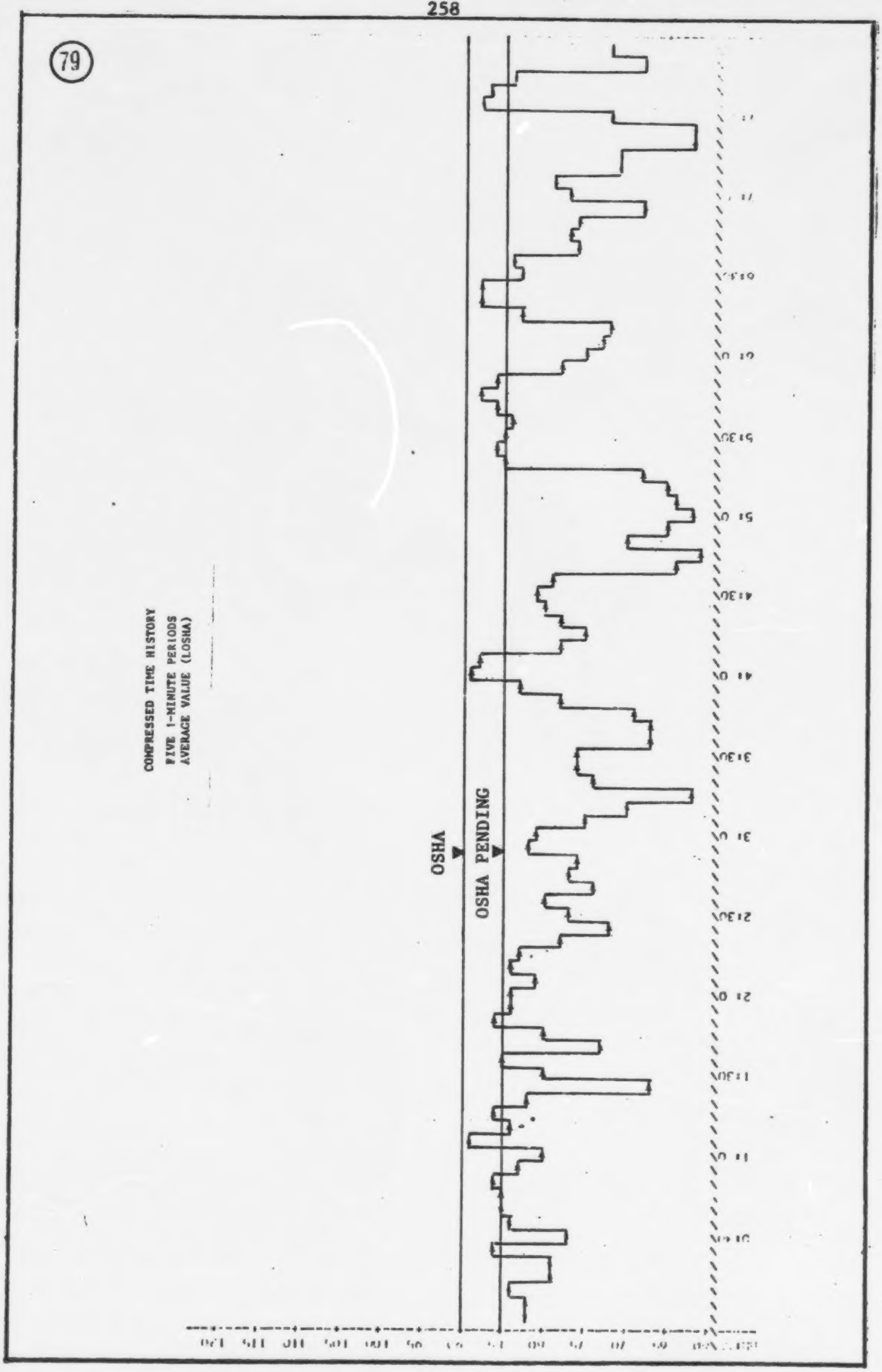
AMPLITUDE DISTRIBUTION

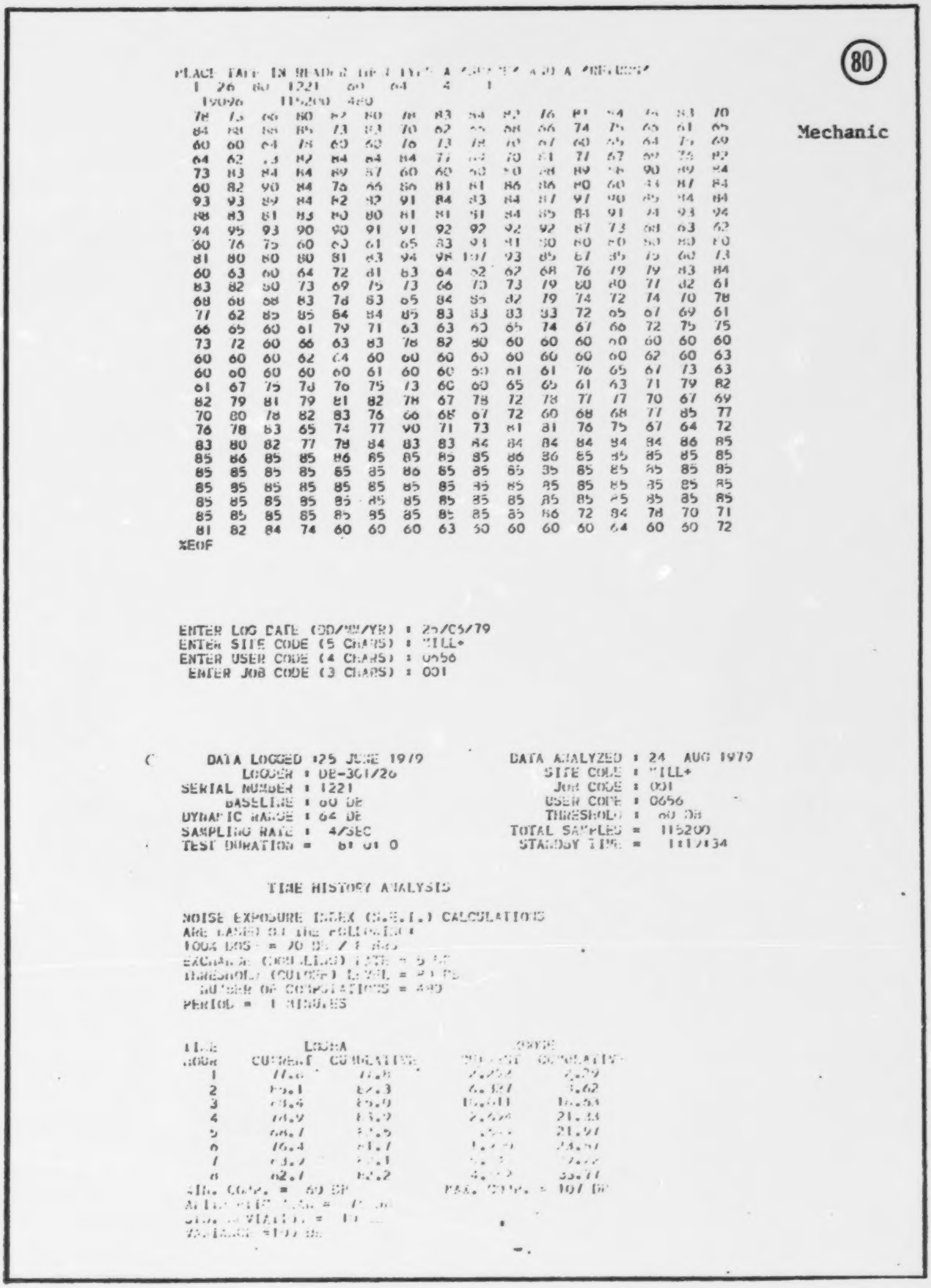
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
70	14.6	60 TO 64
53	11.0	65 TO 69
65	13.5	70 TO 74
68	14.2	75 TO 79
113	23.5	80 TO 84
100	20.8	85 TO 89
11	2.3	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119
TOTAL NO. OF DATA POINTS = 480		



Number of computations = 480

(79)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
120
115
110
105
100
95
90
85
80
75
70
65
60
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0



(80)

Mechanic

```
PLACE TAPE IN READER AND TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1221    60    64     4     1
   19096     115200   480
  78  75  66  80  82  80  78  83  84  82  76  81  84  76  83  70
  84  88  88  85  73  83  70  62  [illegible]  88  66  74  75  65  61  65
  60  60  64  78  60  60  76  73  78  70  67  60  65  64  75  69
  64  62  63  82  84  84  84  77  [illegible]  70  81  71  67  69  75  82
  73  83  84  84  89  87  60  60  60  80  88  89  86  90  89  84
  60  82  90  84  76  66  86  81  81  86  86  80  60  84  87  84
  93  93  89  84  82  82  91  84  83  84  87  97  90  85  84  84
  88  83  81  83  80  80  81  81  81  84  85  84  91  74  93  94
  94  95  93  90  90  91  91  92  92  92  92  87  73  68  63  62
  60  76  75  60  60  61  65  83  93  81  80  80  80  80  80  80
  81  80  80  80  81  83  94  98 107  93  85  87  85  75  60  73
  60  63  60  64  72  81  63  64  62  62  68  76  79  79  83  84
  83  82  80  73  69  75  73  66  70  73  79  80  80  77  82  61
  68  68  68  83  78  83  65  84  85  82  79  74  72  74  70  78
  77  62  85  85  64  84  85  83  83  83  83  72  65  67  69  61
  66  65  60  61  79  71  63  63  60  65  74  67  66  72  75  75
  73  72  60  66  63  83  78  82  80  60  60  60  60  60  60  60
  60  60  60  62  64  60  60  60  60  60  60  60  60  62  60  63
  60  60  60  60  60  61  60  60  60  61  61  76  65  67  73  63
  61  67  75  78  76  75  73  60  60  65  65  61  63  71  79  82
  82  79  81  79  81  82  78  67  78  72  78  77  77  70  67  69
  70  80  78  82  83  76  66  68  67  72  60  68  68  77  85  77
  76  78  83  65  74  77  90  71  73  81  81  76  75  67  64  72
  83  80  82  77  78  84  83  83  84  84  84  84  84  84  86  85
  85  86  85  85  86  85  85  85  85  86  86  85  85  85  85  85
  85  85  85  85  85  85  86  85  85  85  85  85  85  85  85  85
  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85  85
  85  85  85  85  85  85  85  85  85  85  86  72  84  78  70  71
  81  82  84  74  60  60  60  63  60  60  60  60  64  60  60  72
%EOF


ENTER LOG DATE (DD/MM/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0656
 ENTER JOB CODE (3 CHARS) : 001


     DATA LOGGED :25 JUNE 1979             DATA ANALYZED : 24  AUG 1979
          LOGGER : DB-301/26                   SITE CODE : MILL+
   SERIAL NUMBER : 1221                         JOB CODE : 001
        BASELINE : 60 DB                       USER CODE : 0656
   DYNAMIC RANGE : 64 DB                       THRESHOLD :  60 DB
   SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                STANDBY TIME =   1:17:34

          TIME HISTORY ANALYSIS

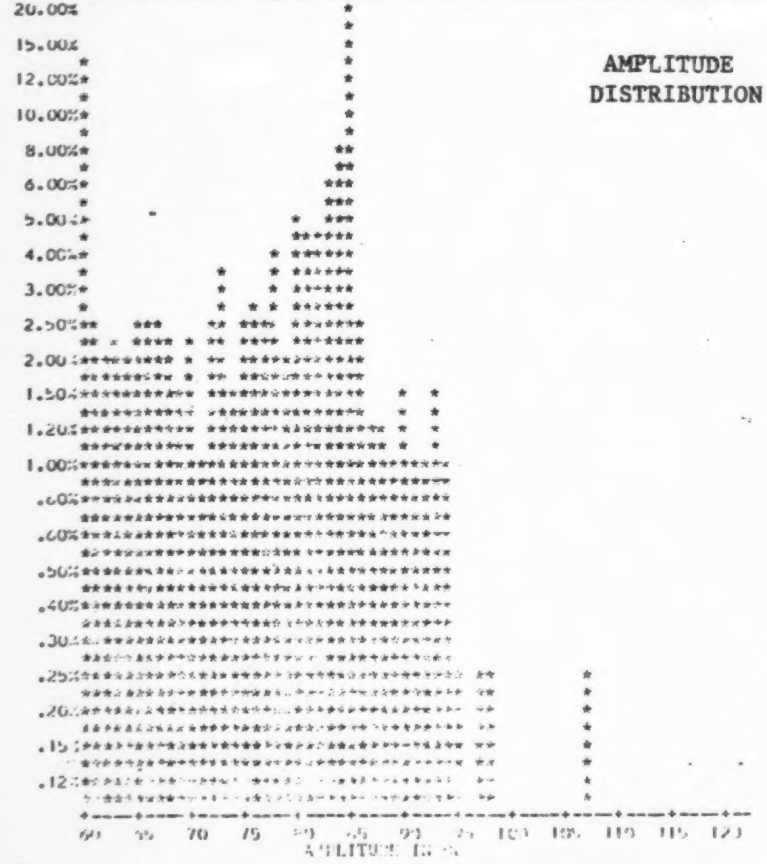
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME          LOSHA                        DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1     77.6        77.6           2.292       2.29
   2     85.1        82.3           6.127       8.62
   3     83.4        83.0          [illegible]  16.63
   4     74.9        83.9          [illegible]  21.33
   5     66.7        83.5          [illegible]  21.97
   6     76.4        81.7          [illegible]  24.57
   7     83.7        [illegible]   [illegible]  [illegible]
   8     62.7        82.2          [illegible]  33.77
MIN. COMP. =  60 DB                MAX. COMP. = 107 DB
AVERAGE COMP. = [illegible]
STD. DEVIATION = [illegible]
VARIANCE = [illegible]
```

(80)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
93	19.4	60 TO 64
45	9.4	65 TO 69
43	9.0	70 TO 74
55	11.5	75 TO 79
111	23.1	80 TO 84
105	21.9	85 TO 89
24	5.0	90 TO 94
3	.6	95 TO 99
0	0.0	100 TO 104
1	.2	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

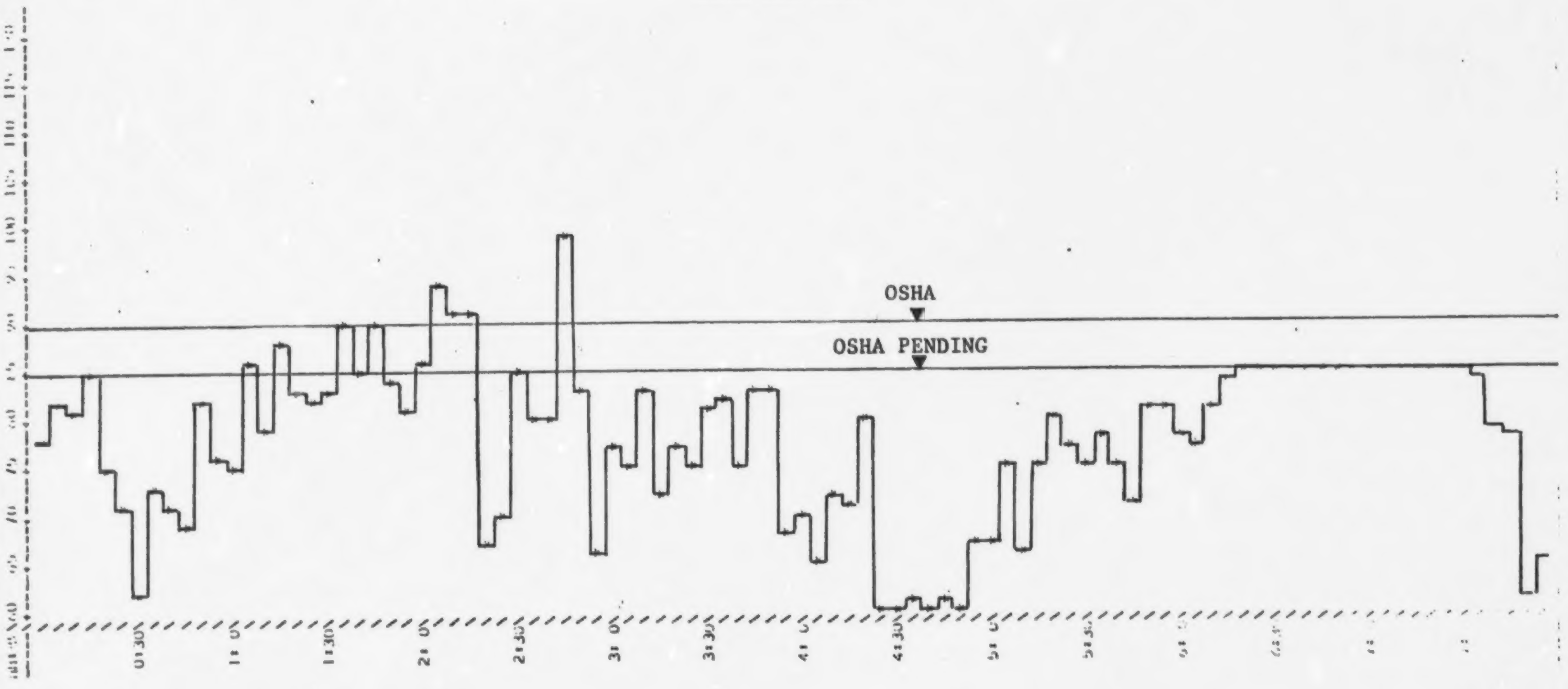


AMPLITUDE DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



80

(81)

Mechanic

```
PLA[illegible]
 1 25 06 1216   60  64    4     1
 [illegible]
 62 66 [illegible] 86 82 75 82 83 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 84 82
 85 72 79 80 74 76 [illegible] [illegible] 81 81 81 79 79 [illegible] 81 82
 61 81 [illegible] 79 74 65 [illegible] 62 63 [illegible] [illegible] 76 77 [illegible] 73 79
 60 80 61 81 78 [illegible] 81 [illegible] 76 81 [illegible] 77 79 79 76 77
 60 73 77 78 72 71 77 80 81 81 [illegible] 71 76 72 [illegible] 80
 61 80 74 69 72 68 62 71 82 [illegible] 80 71 68 71 60 69
 64 73 74 66 74 76 66 [illegible] 81 75 72 78 69 [illegible] 70 77
 60 86 64 80 82 85 80 61 79 79 81 61 79 [illegible] 79 80
 62 82 73 78 79 81 [illegible] 81 81 77 80 76 80 79 78 81
 75 77 72 71 72 81 77 76 74 72 72 76 68 70 [illegible] 73
 74 69 63 77 80 76 77 75 80 [illegible] 83 78 82 82 76 83
 62 77 81 79 82 83 63 62 82 [illegible] [illegible] 85 85 83 81 83
 63 83 65 80 79 76 77 77 82 82 86 79 73 76 78 80
 82 64 78 76 77 77 72 80 84 71 74 76 69 71 70 73
 63 67 63 64 74 69 75 64 70 82 76 66 69 67 72 75
 80 60 81 81 75 60 60 70 84 84 78 77 81 81 82 80
 82 83 82 79 82 83 65 83 81 80 81 83 80 83 79 80
 76 83 82 77 61 62 61 60 71 60 60 60 60 64 70 60
 70 60 60 63 69 60 68 60 60 60 60 60 60 60 60 60
 60 60 60 60 60 70 76 82 81 84 84 82 82 82 83 81
 81 83 83 81 80 80 ,61 83 81 80 83 81 80 82 83 84
 85 82 82 81 80 80 63 64 80 80 80 81 83 84 84 81
 75 79 80 72 77 83 82 77 74 75 80 80 75 76 76 76
 78 68 76 75 75 81 78 76 81 77 78 74 80 79 77 73
 78 78 74 77 76 51 82 75 78 74 74 80 78 78 80 75
 76 76 77 81 82 81 80 74 78 80 73 73 69 73 79 77
 77 67 68 70 72 76 65 69 71 71 79 60 60 61 69 60
 60 60 60 60 66 78 72 72 72 75 76 77 76 82 83 72
 79 79 78 81 81 81 72 80 82 74 77 80 79 76 83 82
 80 77 79 76 80 82 60 78 72 76 82 83 80 76 81 66
#EOF


ENTER LOG DATE (DD/MM/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : [illegible]ILL+
ENTER USER CODE (4 CHARS) : 7052
 ENTER JOB CODE (3 CHARS) : 001


   DATA LOGGED :25 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : 08-301/25                     SITE CODE : "ILL+
SERIAL NUMBER : [illegible]216                    JOB CODE : 001
      BASELINE : 60 DB                         USER CODE : 7052
DYNAMIC RANGE : 64 DB                          THRESHOLD : [illegible]
SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  11520[illegible]
TEST DURATION =    8: [illegible]              STANDBY TIME =    1:19:56

         TIME HISTORY ANALYSIS

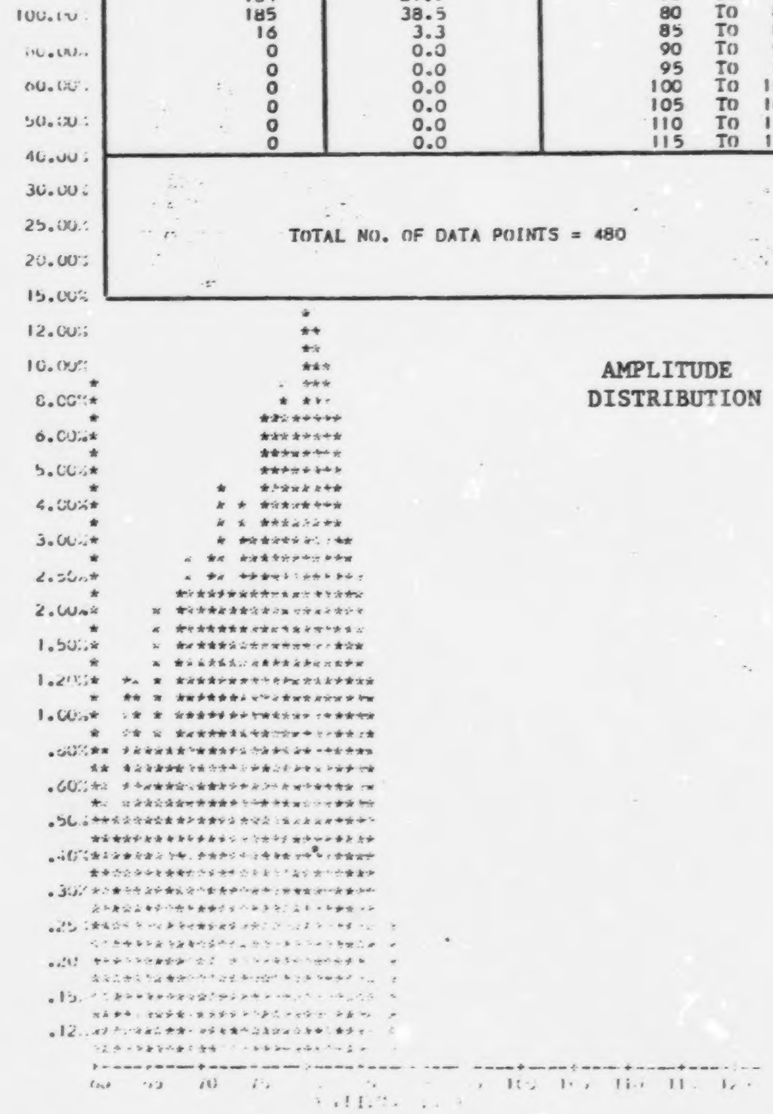
NOISE EXPOSURE INDEX (N.E.I.) CALCULATION
[illegible]
[illegible]
EXCHANGE [illegible] RATE = 5 [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  [illegible] OF COMPUTATIONS = [illegible]
PERIOD = 1 [illegible]

TIME          LOSHA                              [illegible]
HOUR    CURRENT  CUMULATIVE              CURRENT   CUMULATIVE
  1       77.7       77.9                  3.[illegible]      3.67
 .2       77.7       [illegible].9                  2.271       5.34
  3       76.5       7[illegible].7                  2.[illegible]      7.[illegible]
  4       73.9       7[illegible].8                  2.6[illegible]      10.56
  5       77.4       7[illegible]                  2.1[illegible]      12.7[illegible]
  6       [illegible]          [illegible]                  [illegible]      1[illegible]
  7       77.[illegible]       7[illegible]                  2.1[illegible]      1[illegible]
  8       77.0       7[illegible]                  2.[illegible]      2[illegible]
MIN. CO[illegible] = 60 DB                      MAX. C[illegible] = [illegible]
[illegible]
[illegible] = 7
[illegible] = 4[illegible]
```

(81)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
49	10.2	60 TO 64
34	7.1	65 TO 69
62	12.9	70 TO 74
134	27.9	75 TO 79
185	38.5	80 TO 84
16	3.3	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

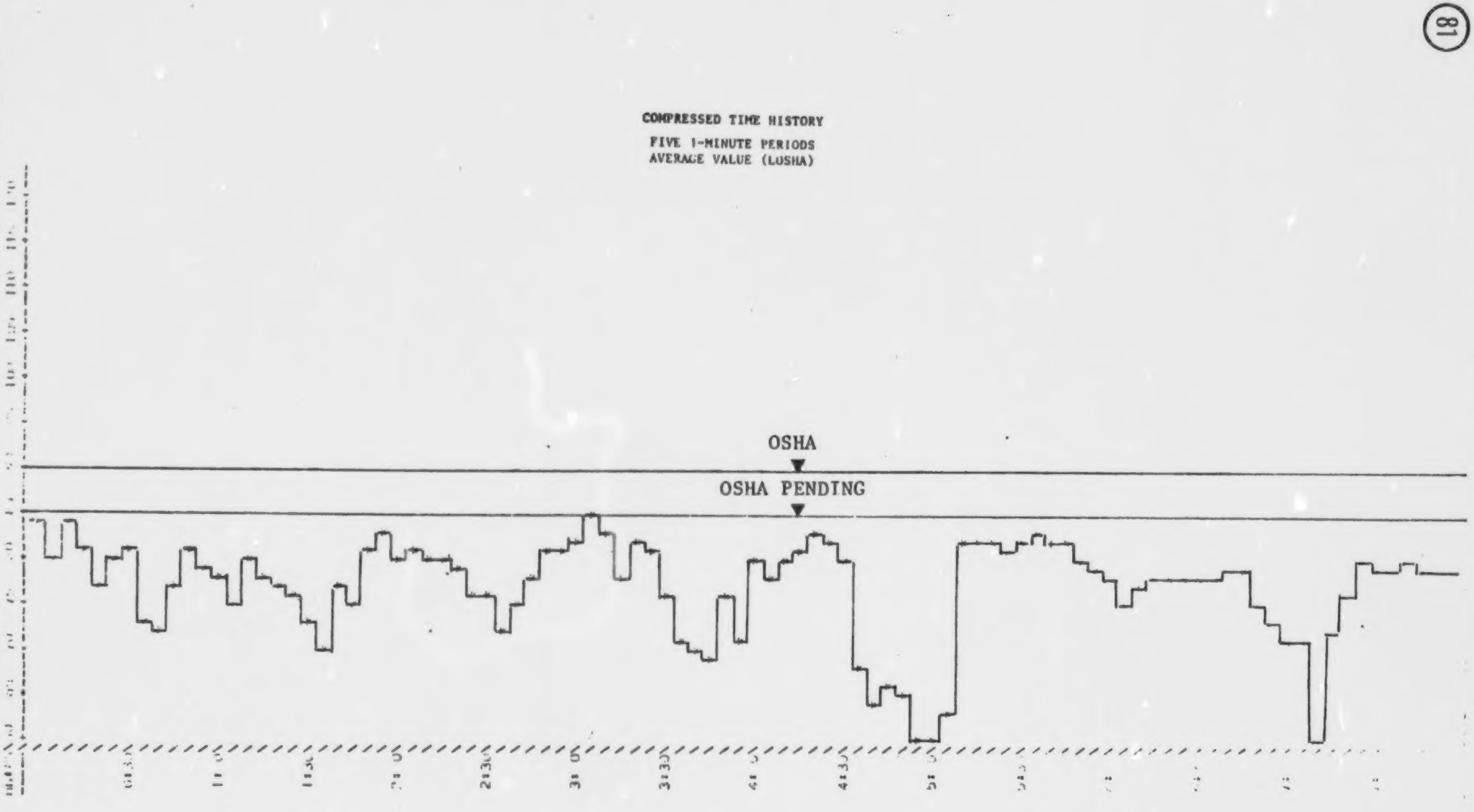
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480

(81)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0

(82)

Mechanic

```
PLACE TAPE [illegible] A [illegible]
  1  26  80  1213  60  64  [illegible]  1
  22543   [illegible]  476
  74   78   79   77   79   76   68   [illegible] [illegible] 60   50   69   53   60   63   65
  60   66   61   66   64   77   60   [illegible] [illegible] 60   72   60   50   71   73   [illegible]
  64   60   69   60   60   61   62   71   [illegible] 64   [illegible] 84   84   84   80   [illegible]
  63   67   62   60   60   61   76   7[illegible] 75   60   60   75   1    63   63   [illegible]
  60   82   83   77   71   85   76   61   72   60   76   [illegible] [illegible] 74   75   70
  65   70   79   77   79   85   85   85   [illegible] 74   74   84   85   85   84   83
  63   80   87   85   85   85   81   7[illegible] 7[illegible] 72   70   72   60   62   70   75
  73   83   84   82   78   88   90   85   84   84   86   86   85   85   81   83
  84   85   86   84   80   78   80   76   83   85   84   84   84   85   86   [illegible]
  86   84   83   85   85   85   85   84   [illegible] 83   83   85   84   83   70   71
  65   82   82   82   60   62   71   62   75   77   82   79   76   83   73   60
  61   72   77   77   76   80   67   72   7[illegible] 70   81   81   60   80   70   69
  73   79   82   78   71   84   64   63   67   62   84   81   76   84   80   86
  63   81   69   66   71   69   75   77   77   76   84   84   84   84   83   83
  64   84   75   62   60   60   61   60   51   50   60   79   70   81   71   60
  71   69   83   78   67   77   60   64   71   61   65   60   60   81   79   81
  75   63   69   68   65   69   70   67   65   55   71   71   71   65   60   60
  60   60   60   69   79   81   60   61   79   63   60   70   64   61   63   84
  64   62   66   64   60   73   73   60   53   76   81   81   68   83   70   73
  82   76   77   74   73   81   63   84   77   78   81   78   80   80   84   65
  76   82   77   63   60   60   60   80   80   71   81   80   77   77   71   76
  60   78   77   74   73   77   77   79   75   79   74   76   79   80   76   78
  82   84   81   77   64   68   74   84   82   83   77   75   74   77   64   81
  81   82   82   80   70   78   74   64   77   75   73   77   73   73   76   61
  73   72   60   63   66   64   73   60   60   53   60   73   81   82   80   81
  73   77   80   83   82   77   62   68   67   72   60   60   60   60   60   60
  60   60   60   60   70   71   60   85   83   65   71   76   86   81   76   85
  88   76   76   84   83   74   67   61   62   64   71   79   87   79   85   82
  79   74   61   78   79   74   60   80   84   85   79   60   60   60   64   60
  60   60   60   65   64   60   73   66   60   61   70   60   60   60   60   60
&EOF


ENTER LOG DATE (MO/DY/YR) : 25/06/79
ENTER SITE CODE (5 CHARS) : MILL+

ENTER USER CODE (4 CHARS) : 0734
 ENTER JOB CODE (3 CHARS) : 038


    DATA LOGGED :25 JUNE 1979                DATA ANALYZED : 27  AUG 1979
         LOGGER : DB-301/25                      SITE CODE : MILL+
  SERIAL NUMBER : 1213                            JOB CODE : 038
       BASELINE : 60 Db                          USER CODE : 0734
  DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 Db
  SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  114552
  TEST DURATION =    7:55: 0                  STANDBY TIME =    1:33:30

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) [illegible]
ARE BASED ON THE FOLLOWING:
100% DOS = [illegible]
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 476
PERIOD =  1 MINUTES

TIME           LEQ,dBA                    DOSE
HOUR     CURRENT   CUMULATIVE      CURRENT   CUMULATIVE
   1       72.7       72.7          1.132       1.13
   2       80.1       77.3          [illegible] 4.29
   3       81.[illegible] 78.2       [illegible] [illegible]
   4       77.[illegible] 78.[illegible] 2.[illegible] 1[illegible]
   5       73.[illegible] 7[illegible].1 1.[illegible] 1[illegible]
   6       76.[illegible] 7[illegible].1 2.[illegible] 1[illegible]
   7       75.0       77.7          1.552       1[illegible].08
   8       77.[illegible] 77.[illegible] [illegible] 1[illegible].14
[illegible]                          [illegible]
[illegible]
[illegible]
[illegible]
```

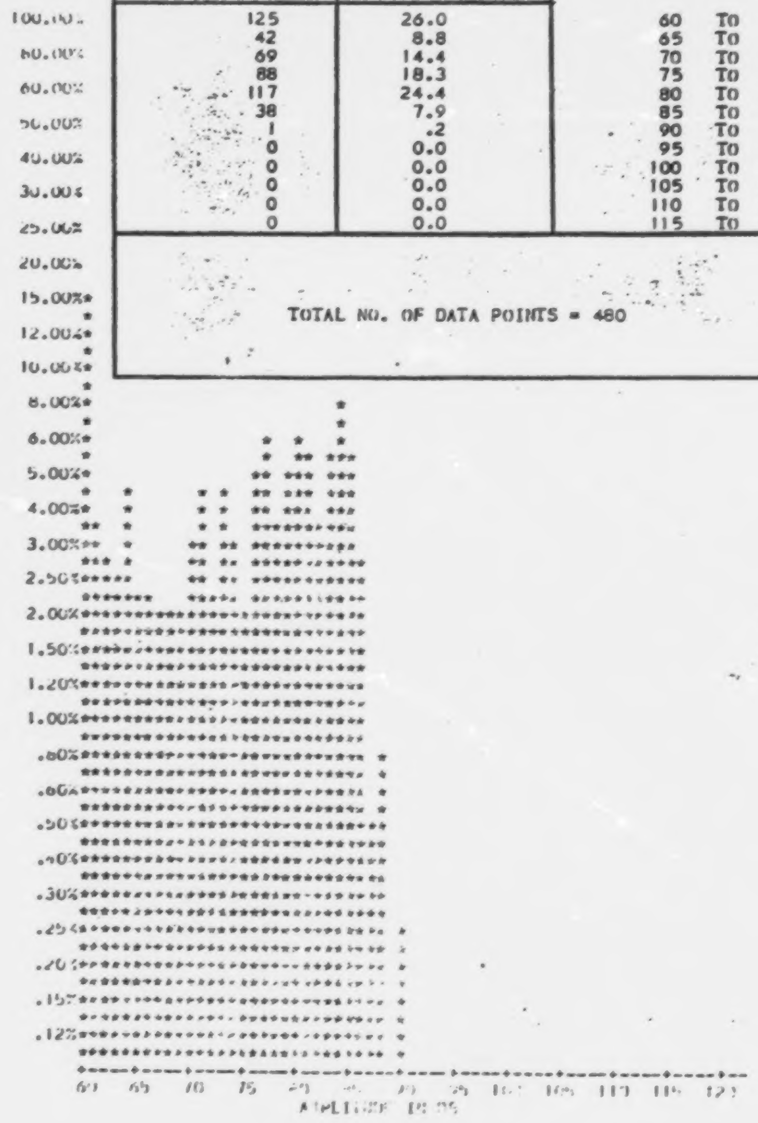
(82)

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
125	26.0	60 TO 64
42	8.8	65 TO 69
69	14.4	70 TO 74
88	18.3	75 TO 79
117	24.4	80 TO 84
38	7.9	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

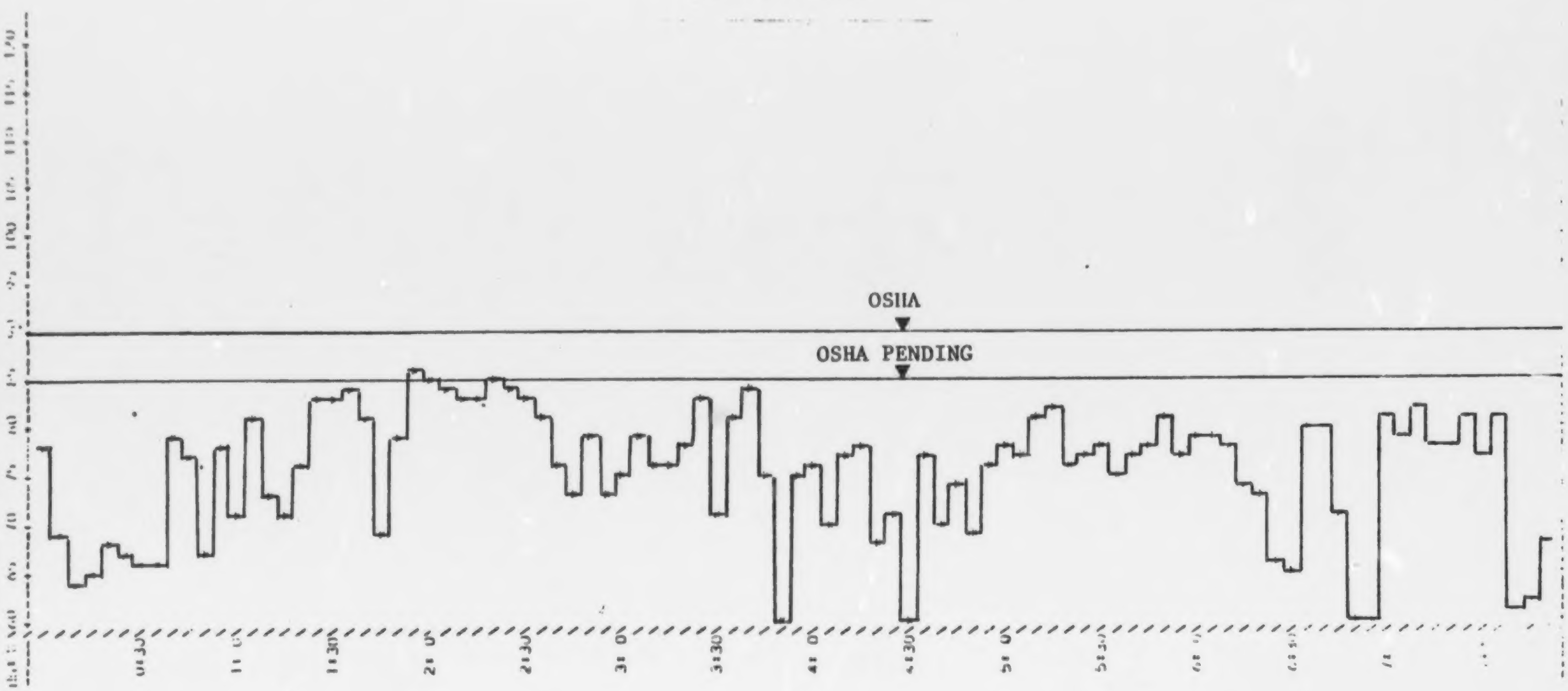
TOTAL NO. OF DATA POINTS = 480



Number of computations = 475

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(82)

(83)

Welder

```
PLACE TAPE IN READER THEN TYPE A *SPACE* AND A *RETURN*
  1  26  60  1213   60   64    4    1
   19322     115200  480
  76  69  60  70  70  62  62  70  75  76  79  80  80  80  79  79
  80  78  78  79  82  82  82  82  81  82  81  81  82  82  80  82
  80  81  81  81  81  83  84  81  81  81  82  83  83  83  84  77
  81  81  86  84  76  83  91  89  85  82  82  81  84  83  79  81
  83  83  82  72  80  87  64  80  85  83  80  81  85  82  84  84
  81  91  90  87  94  96  92  80  81  82  80  86  80  82  82  81
  75  76  67  77  79  85  87  82  83  76  82  78  82  82  75  77
  71  69  74  64  84  80  82  81  90 101  87  66  77  69  73  74
  80  86  65  89  87  87  87  83  74  60  61  63  72  80  70  65
  67  71  78  63  68  69  74  70  73  66  67  61  75  60  78  78
  64  77  79  91  80  87  60  77  77  80  74  74  73  74  78  72
  77  78  74  65  70  80  82  80  80  80  83  84  83  82  80  80
  83  83  84  83  77  67  64  87  85  91  91  91  86  88  87  83
  88  84  83  77  80  83  81  80  81  74  60  81  80  84  82  84
  78  77  75  73  76  81  76  75  80  85  94  90  84  66  77  85
  80  71  79  75  75  79  86  84  85  83  84  86  82  84  85  81
  79  82  81  84  79  80  62  81  79  70  60  60  60  60  60  60
  62  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  68  68  63  74  77  73  72  66
  83  71  79  78  70  73  76  75  82  79  78  71  74  73  69  70
  60  66  75  65  68  68  60  78  78  72  69  71  68  76  75  70
  79  76  78  69  74  73  86  86  90  92  90  77  80  81  75  75
  79  62  60  60  60  60  74  84  94  92  85  86  77  77  85  85
  85  90  77  67  75  79  78  80  76  85  80  76  66  69  75  71
  78  78  76  75  79  78  75  69  69  64  68  77  75  80  73  61
  63  72  69  60  71  72  74  73  82  74  81  80  83  82  78  77
  75  74  70  76  77  73  76  72  72  72  77  67  72  73  63  60
  61  75  60  68  60  60  71  68  74  75  70  83  83  75  77  71
  83  78  80  78  78  83  79  78  77  75  86  87  85  84  87  84
  85  90  90  90  77  84  83  82  81  61  60  82  79  75  74  75
*EOF


ENTER LOG DATE (MO/MM/YR) : 20/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 0149
 ENTER JOB CODE (3 CHARS) : 004


    DATA LOGGED :20 JUNE 1979              DATA ANALYZED : 23  AUG 1979
          LOGGER : DB-301/26                    SITE CODE : MILL+
   SERIAL NUMBER : 1213                          JOB CODE : 004
        BASELINE : 60 DB                        USER CODE : 0149
   DYNAMIC RANGE : 64 DB                        THRESHOLD :  60 DB
   SAMPLING RATE :  4/SEC                   TOTAL SAMPLES =  115200
   TEST DURATION =   8: 0: 0                 STANDBY TIME =   1:20:30

             TIME HISTORY ANALYSIS

   NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
   ARE BASED ON THE FOLLOWING:
   100% DOSE = 90 DB / 8 HRS
   EXCHANGE (DOUBLING) RATE = 5 DB
   THRESHOLD (CUTOFF) LEVEL = 60 DB
     NUMBER OF COMPUTATIONS = 480
   PERIOD =  1 MINUTES

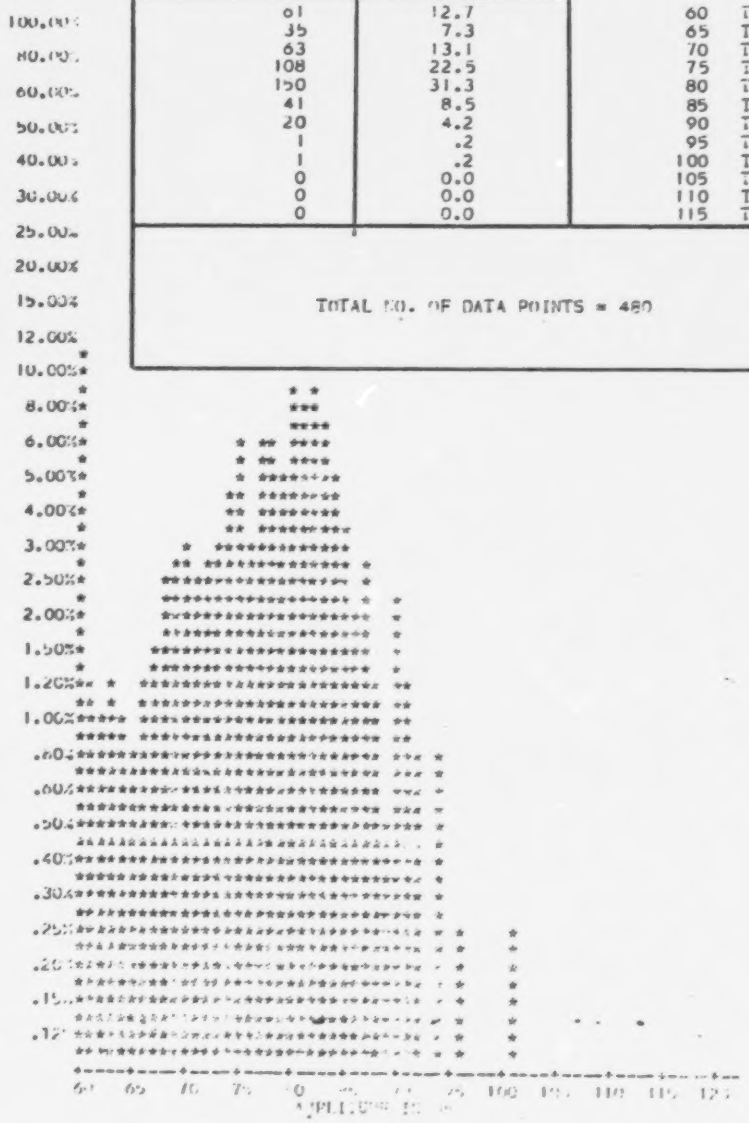
   TIME          LOSHA                        DOSE
   HOUR     CURRENT  CUMULATIVE       CURRENT  CUMULATIVE
     1       81.0       81.0          [illegible]  [illegible]
     2       83.4       82.3          4.277        8.57
     3       80.7       81.8          3.430       12.00
     4       83.6       82.2          [illegible] 17.01
     5       75.1       81.4          [illegible] [illegible]
     6       76.1       [illegible]   [illegible] 21.24
     7       79.7       80.7          [illegible] [illegible]
     8       79.8       80.6          [illegible] [illegible]
   MIN. LEVEL = 60 DB                 MAX. LEVEL = [illegible]
   ARITHMETIC MEAN = [illegible]
   STD. DEVIATION = [illegible]
   VARIANCE = [illegible]
```

⑧③

AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
61	12.7	60 TO 64
35	7.3	65 TO 69
63	13.1	70 TO 74
108	22.5	75 TO 79
150	31.3	80 TO 84
41	8.5	85 TO 89
20	4.2	90 TO 94
1	.2	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

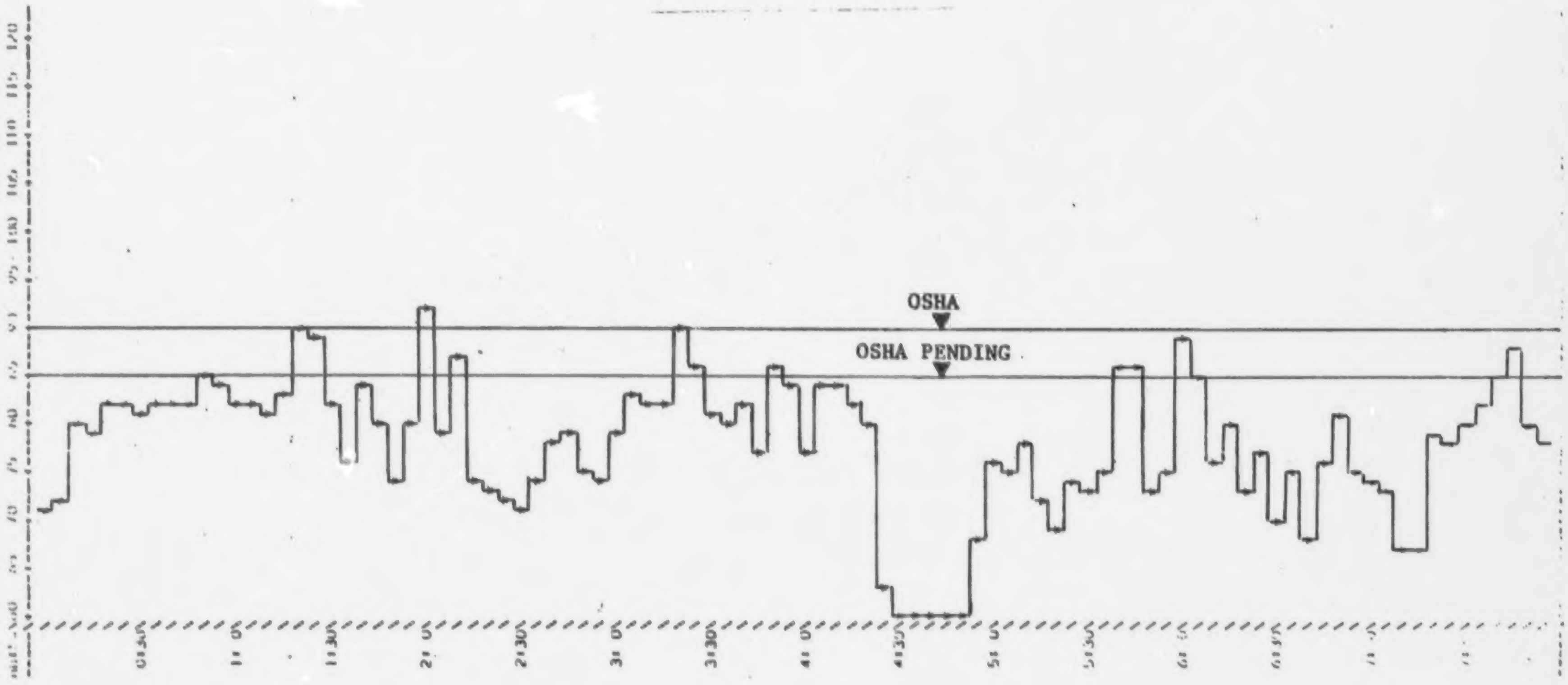


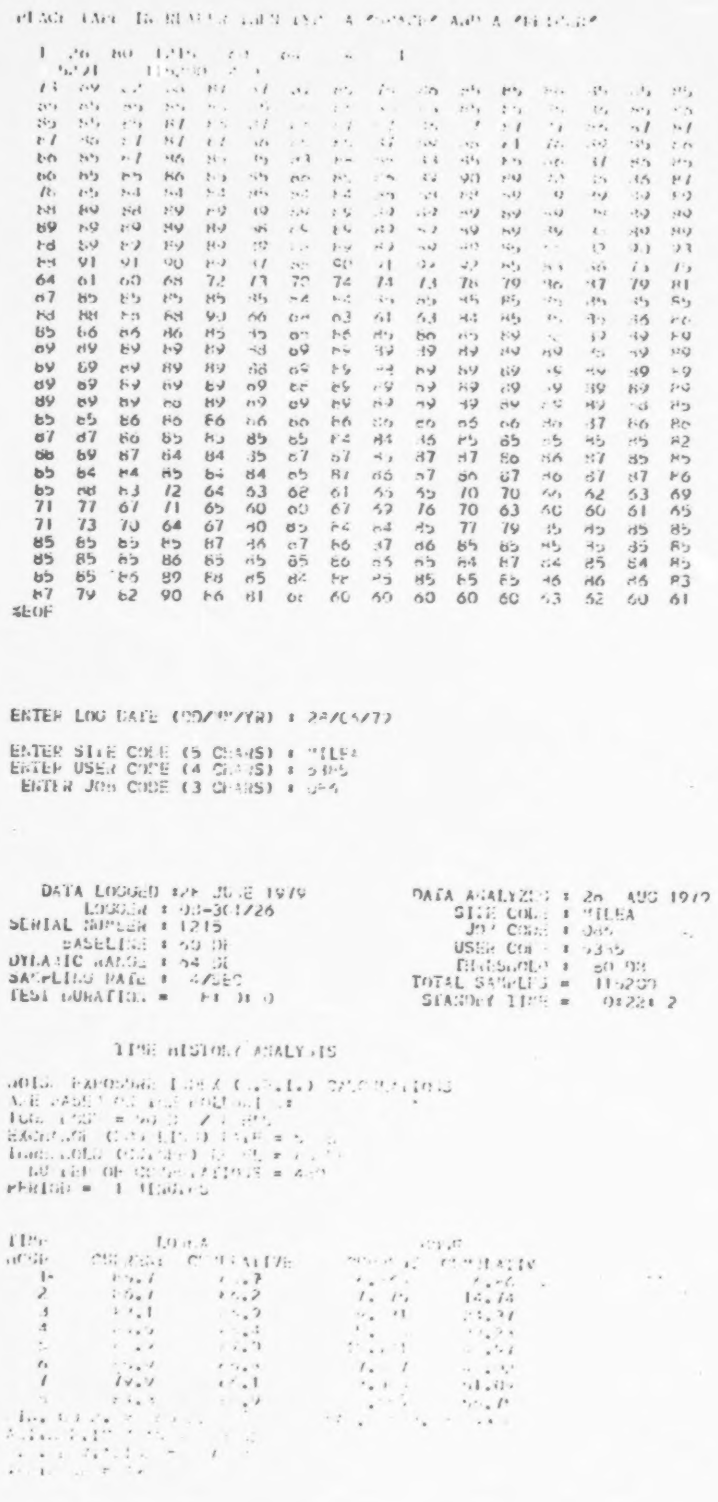
Number of computations = 480

(83)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





```
PLACE TAPE IN READER [illegible] A [illegible] AND A [illegible]

 1  26  80  1215  [illegible]  64  [illegible]  1
   5.71      115200  [illegible]
 73  69  [illegible]  [illegible]  87  87  [illegible]  85  75  85  85  85  [illegible]  85  85  85
 [illegible]
 85  85  85  87  [illegible]  87  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  87  [illegible]  [illegible]  87  87
 87  80  87  87  [illegible]  86  [illegible]  [illegible]  87  [illegible]  [illegible]  81  76  [illegible]  85  [illegible]
 86  85  87  86  85  85  83  [illegible]  [illegible]  84  85  85  [illegible]  87  85  85
 86  85  85  86  85  85  86  85  [illegible]  [illegible]  90  89  [illegible]  [illegible]  85  87
 76  85  84  84  84  86  [illegible]  84  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]
 88  89  88  89  89  89  [illegible]  89  [illegible]  [illegible]  89  89  [illegible]  [illegible]  89  90
 89  89  89  89  89  [illegible]  [illegible]  89  [illegible]  [illegible]  89  89  [illegible]  [illegible]  89  89
 88  89  89  89  89  [illegible]  [illegible]  89  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  93
 89  91  91  90  89  87  [illegible]  90  91  [illegible]  [illegible]  85  [illegible]  [illegible]  75  75
 64  61  60  68  72  73  72  74  74  73  76  79  80  87  79  81
 87  85  85  85  85  85  84  84  [illegible]  85  85  85  [illegible]  85  85  85
 84  88  83  88  90  66  64  63  61  63  84  85  [illegible]  85  86  86
 85  66  86  86  85  85  80  86  85  80  85  89  [illegible]  89  89  89
 89  89  89  89  89  88  89  85  89  89  89  89  89  [illegible]  89  89
 89  69  89  89  89  88  89  85  84  89  89  89  [illegible]  89  89  89
 89  89  89  89  89  89  85  85  89  89  89  89  89  89  89  89
 89  89  89  80  89  89  89  89  89  89  89  89  [illegible]  89  [illegible]  85
 85  85  86  86  86  86  86  86  86  86  85  86  86  87  86  86
 87  87  86  85  85  85  85  84  84  85  85  85  85  85  85  82
 88  89  87  84  84  85  87  87  [illegible]  87  87  86  86  87  85  85
 85  84  84  85  84  84  85  87  86  87  86  87  86  87  87  86
 85  88  83  72  64  63  62  61  65  55  70  70  66  62  63  69
 71  77  67  71  65  60  60  67  59  76  70  63  60  60  61  65
 71  73  70  64  67  80  85  84  84  85  77  79  85  85  85  85
 85  85  85  85  87  86  87  86  87  86  85  85  85  85  85  85
 85  85  85  86  85  85  85  86  85  85  84  87  84  85  84  85
 85  85  85  89  88  85  84  85  85  85  85  85  86  86  86  83
 87  79  62  90  86  81  60  60  60  60  60  60  63  62  60  61
%EOF


ENTER LOG DATE (DD/MM/YR) : 2[illegible]/05/79

ENTER SITE CODE (5 CHARS) : MILEA
ENTER USER CODE (4 CHARS) : 5385
 ENTER JOB CODE (3 CHARS) : 084


   DATA LOGGED : 2[illegible] JUNE 1979           DATA ANALYZED : 26  AUG 1979
        LOGGER : 03-301/26                          SITE CODE : MILEA
 SERIAL NUMBER : 1215                                JOB CODE : 085
      BASELINE : 60 DB                              USER CODE : 5335
 DYNAMIC RANGE : 54 DB                              THRESHOLD :  60 DB
 SAMPLING RATE :  4/SEC                         TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                       STANDBY TIME =   0:22: 2

          TIME HISTORY ANALYSIS

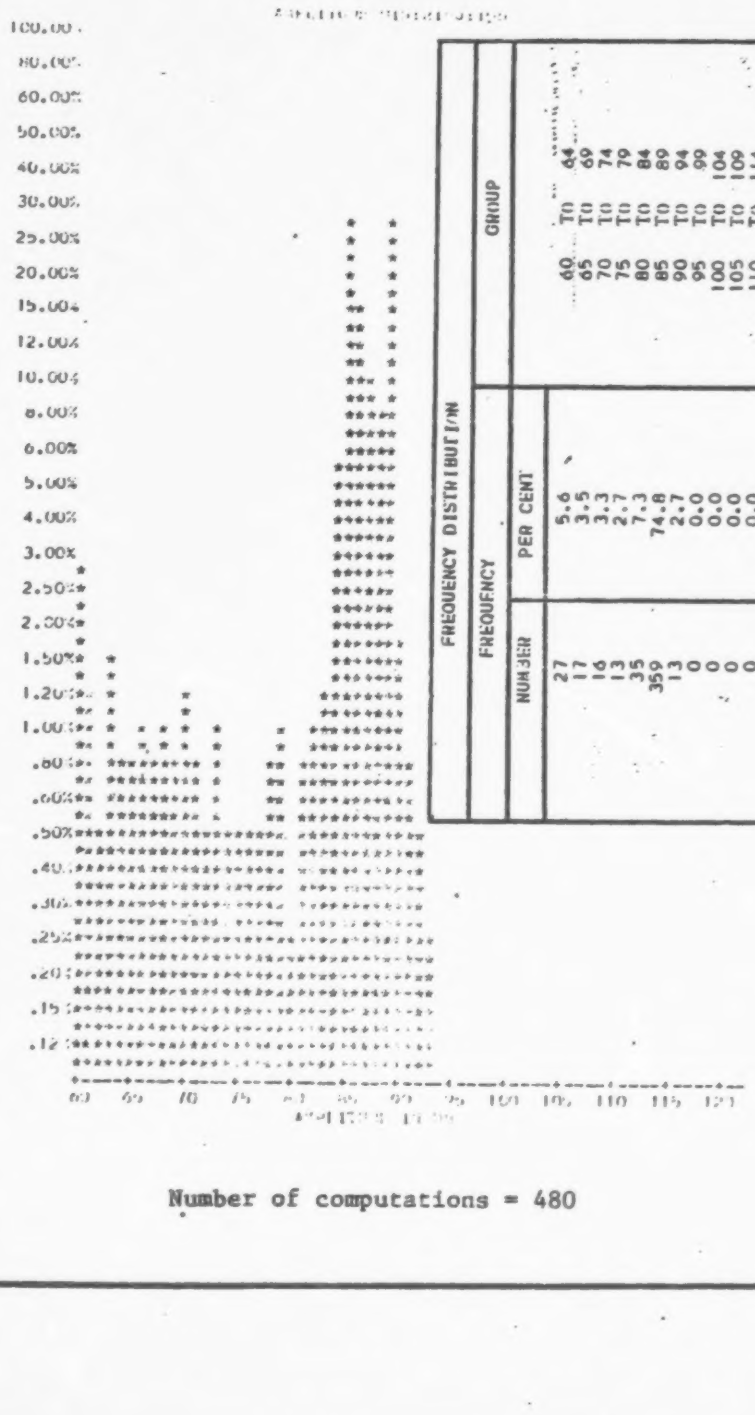
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING :
[illegible]
EXCHANGE (CONSTANT) RATE = [illegible]
THRESHOLD [illegible] = [illegible]
  NUMBER OF [illegible] = [illegible]
PERIOD =  1 HOURS

TIME         LOG [illegible]                      [illegible]
HOUR    [illegible]   CUMULATIVE          [illegible]   CUMULATIVE
  1       [illegible]      [illegible]           [illegible]      [illegible]
  2       [illegible]      [illegible]           [illegible]      14.74
  3       [illegible]      [illegible]           [illegible]      [illegible]
  4       [illegible]      [illegible]           [illegible]      [illegible]
  5       [illegible]      [illegible]           [illegible]      [illegible]
  6       [illegible]      [illegible]           [illegible]      [illegible]
  7       79.9       [illegible]           [illegible]      [illegible]
  8       [illegible]      [illegible]           [illegible]      [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

84

Filter
Maintenance

(34)



FREQUENCY DISTRIBUTION

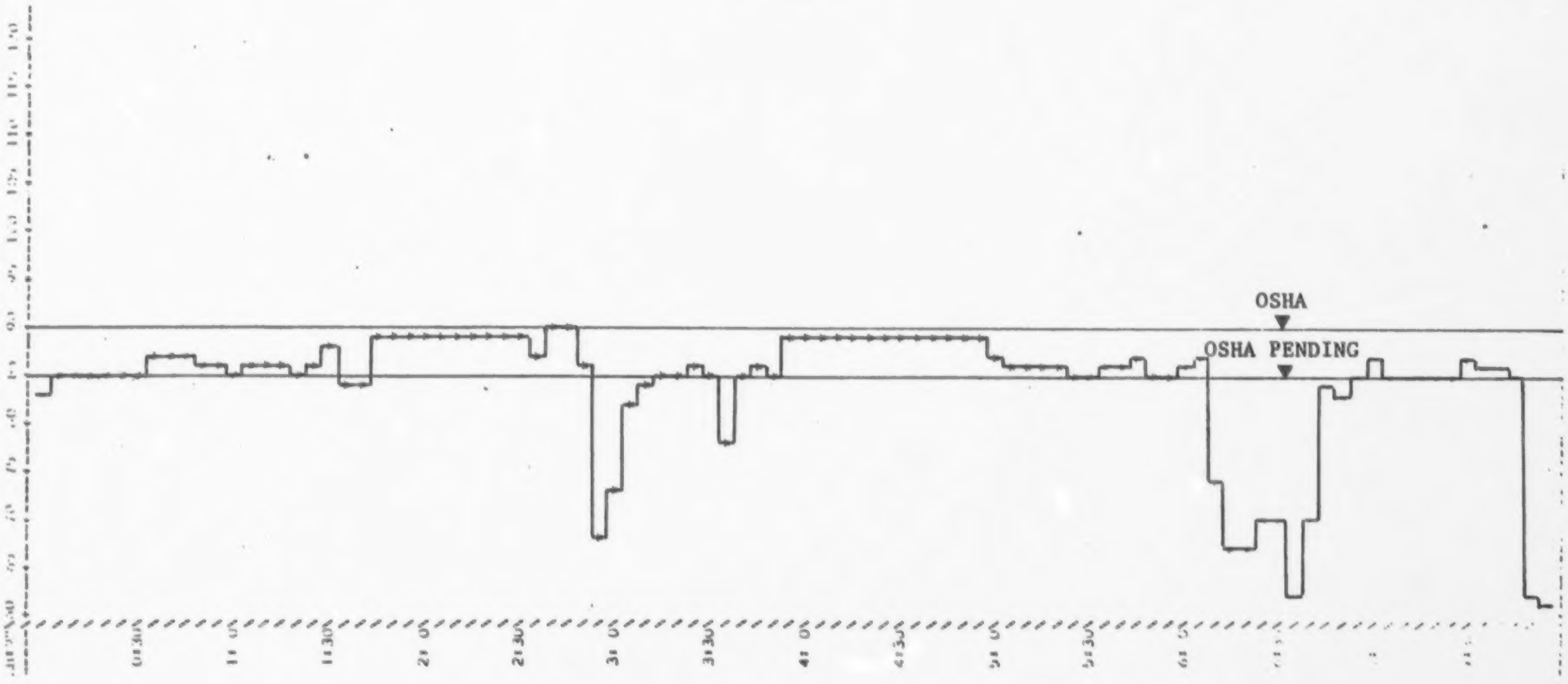
FREQUENCY		GROUP
NUMBER	PER CENT	
27	5.6	60 TO 64
17	3.5	65 TO 69
16	3.3	70 TO 74
13	2.7	75 TO 79
35	7.3	80 TO 84
359	74.8	85 TO 89
13	2.7	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

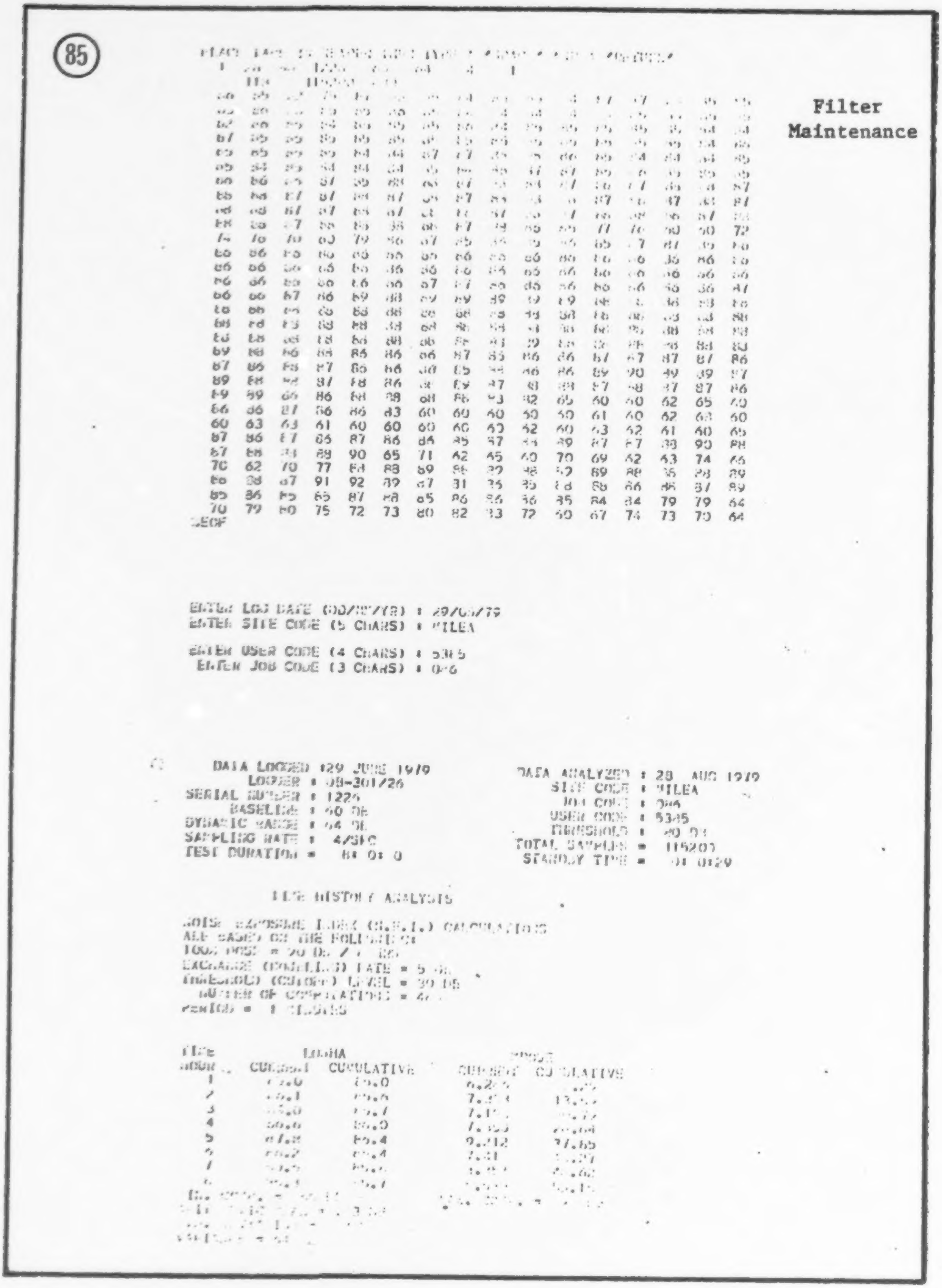
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)





(85)

Filter Maintenance

```
[illegible]
 1  [illegible]  1226  [illegible]  64  [illegible]  1
[illegible]
[illegible]
 87  86  F8  87  86  86  [illegible]  85  [illegible]  86  86  89  90  89  89  87
 89  88  [illegible]  87  88  86  [illegible]  89  87  [illegible]  [illegible]  87  [illegible]  87  87  86
 89  89  [illegible]  86  88  88  [illegible]  86  [illegible]  82  65  60  60  62  65  60
 66  86  87  86  86  83  60  60  60  59  59  61  60  62  63  60
 60  63  63  61  60  60  60  60  60  62  60  63  62  61  60  65
 87  86  87  86  87  86  84  85  87  [illegible]  89  87  87  88  90  88
 67  88  [illegible]  89  90  65  71  62  65  60  70  69  62  63  74  66
 70  62  70  77  84  88  69  [illegible]  [illegible]  [illegible]  [illegible]  89  88  [illegible]  [illegible]  89
 80  88  87  91  92  89  87  31  [illegible]  [illegible]  [illegible]  88  86  [illegible]  87  89
 85  86  85  65  87  88  85  86  86  36  35  84  84  79  79  64
 70  79  80  75  72  73  80  82  83  72  50  67  74  73  70  64
EOF


ENTER LOG DATE (DD/MM/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILEA

ENTER USER CODE (4 CHARS) : 5385
 ENTER JOB CODE (3 CHARS) : 046

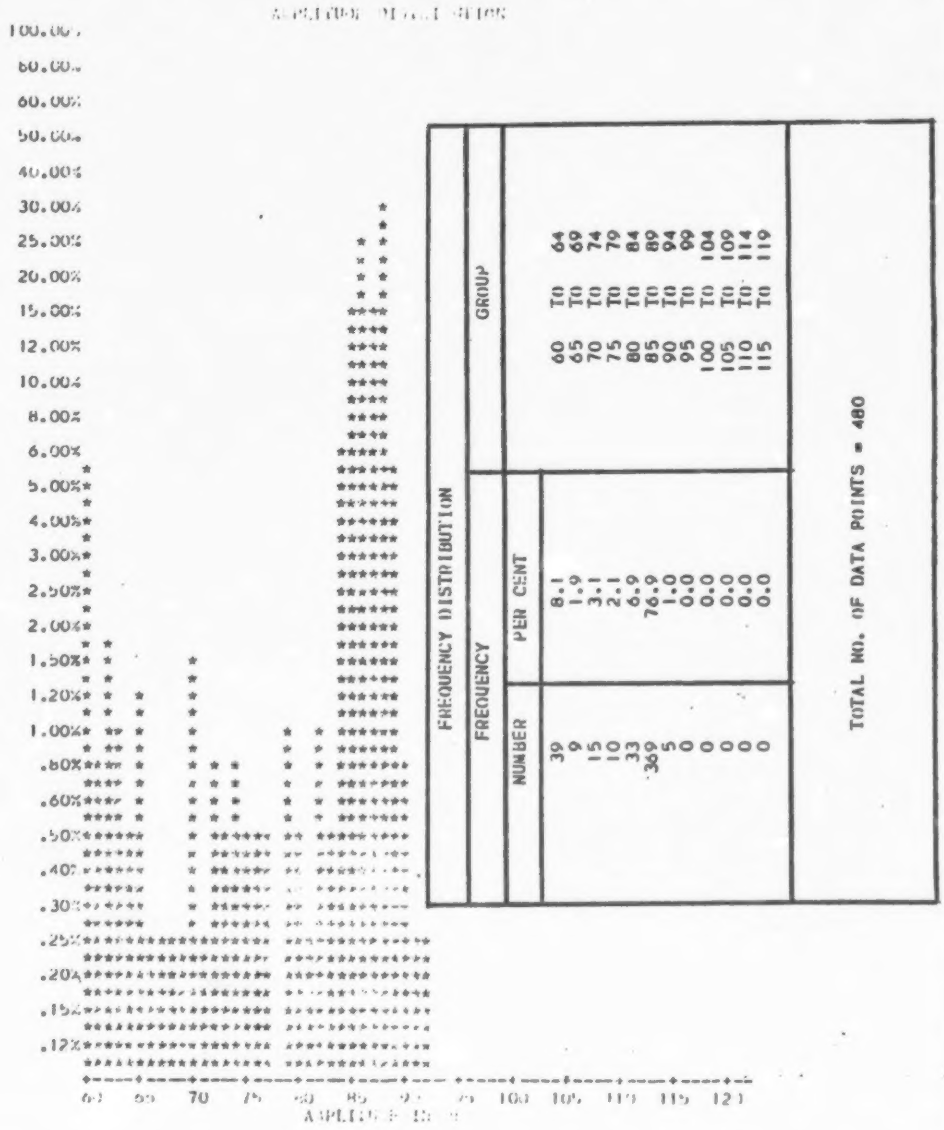

   DATA LOGGED :29 JUNE 1979                    DATA ANALYZED : 28  AUG 1979
        LOGGER : 09-301/26                          SITE CODE : MILEA
 SERIAL NUMBER : 1226                                JOB CODE : 046
      BASELINE : 60 DB                              USER CODE : 5385
 DYNAMIC RANGE : 64 DB                              THRESHOLD : 90 DB
 SAMPLING RATE :  4/SEC                        TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                       STANDBY TIME =  0: 0129

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 30 DB
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD =  1 HOURS


TIME            LOSHA                        DOSE
HOUR    CURRENT   CUMULATIVE        CURRENT   CUMULATIVE
   1     [illegible]     [illegible]          6.2[illegible]     [illegible]
   2     [illegible]     [illegible]          7.[illegible]     13.[illegible]
   3     [illegible]     [illegible]          7.1[illegible]     [illegible]
   4     [illegible]     [illegible]          7.[illegible]     [illegible]
   5     [illegible]     [illegible]          9.212     27.65
   6     [illegible]     [illegible]          7.41      [illegible]
   7     [illegible]     [illegible]          [illegible]     [illegible]
   8     [illegible]     [illegible]          [illegible]     [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
```

85

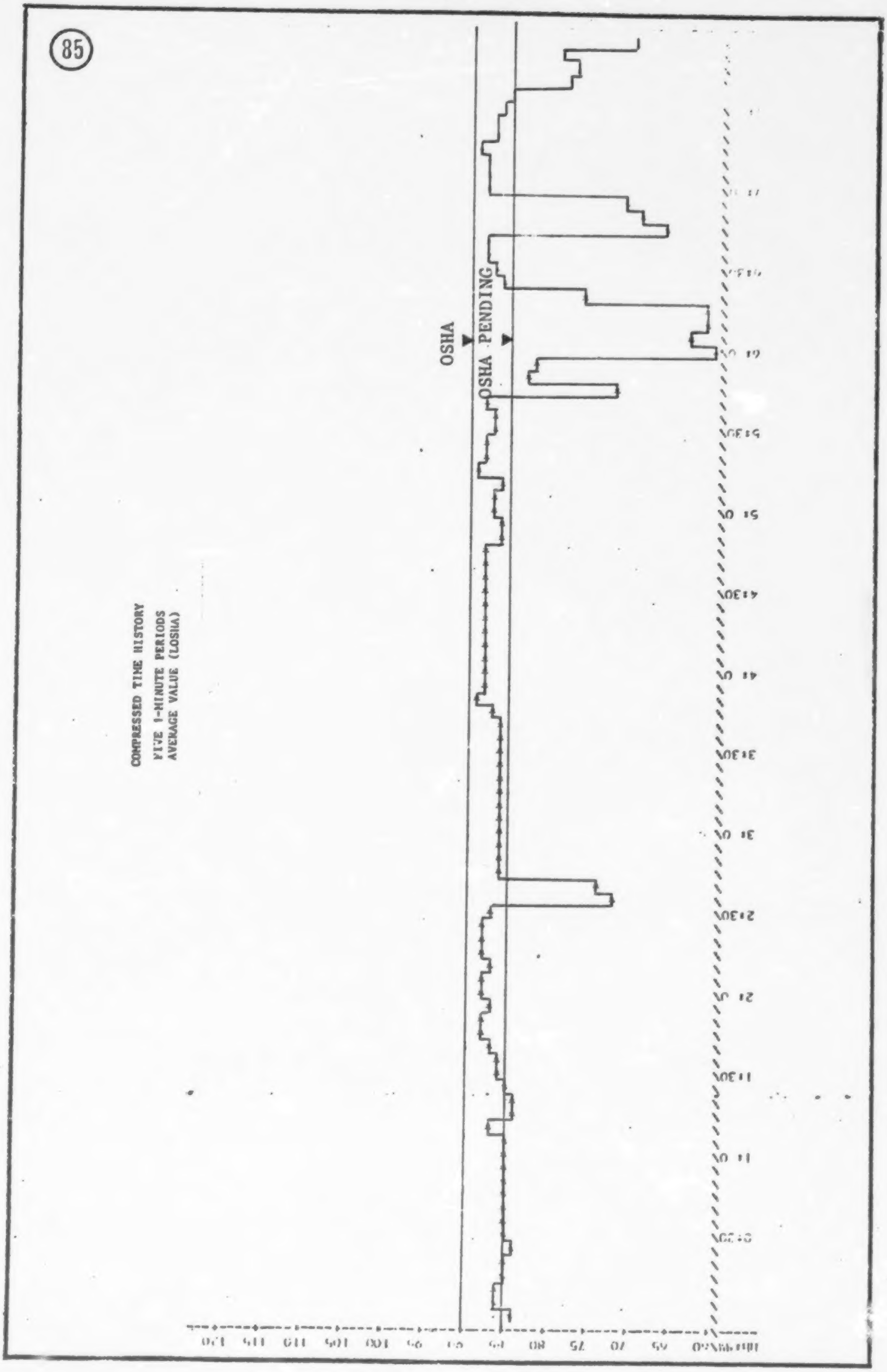


FREQUENCY DISTRIBUTION

GROUP	FREQUENCY PER CENT	FREQUENCY NUMBER
60 TO 64	8.1	39
65 TO 69	1.9	9
70 TO 74	3.1	15
75 TO 79	2.1	10
80 TO 84	6.9	33
85 TO 89	76.9	369
90 TO 94	1.0	5
95 TO 99	0.0	0
100 TO 104	0.0	0
105 TO 109	0.0	0
110 TO 114	0.0	0
115 TO 119	0.0	0

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


85
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00

(86)

Compressor Mechanic

```
PLACE TAPE IN READER [illegible]
  1  26  06  1221  [illegible]  64    4      1
 .07/22     115200  [illegible]
  60  62  [illegible]  76  80  94  91  [illegible]  93  92  [illegible]  91  [illegible]  95  95  94
  94  92  93  94  94  93  91  [illegible]  [illegible]  [illegible]  91  91  91  93  93  93
  92  93  90  92  92  93  92  92  93  93  [illegible]  [illegible]  [illegible]  93  [illegible]  92
  92  92  93  93  92  91  92  92  92  92  92  [illegible]  [illegible]  92  93  91
  88  85  92  80  64  65  63  63  63  60  61  65  72  65  67  63
  61  73  66  68  70  67  66  66  61  63  60  79  91  91  93  92
  92  93  93  92  92  92  92  92  93  93  93  91  91  92  92  94
  93  93  93  92  92  93  93  92  84  60  60  60  89  92  90  93
  92  92  92  92  90  90  90  90  91  91  89  90  90  90  90  89
  88  89  92  93  93  93  94  [illegible]  93  94  90  93  91  91  [illegible]  91
  92  91  91  92  92  92  92  [illegible]  93  93  93  114 115 111 113  92
  94  94  93  94  94  93  93  92  92  88  88  88  [illegible]  90  88  83
  60  66  65  65  67  62  60  74  64  67  60  69  67  66  60  63
  69  71  71  74  68  62  63  61  67  61  63  64  63  61  67  62
  79  75  70  76  75  71  65  67  72  69  64  70  67  70  71  65
  60  60  62  63  64  60  64  62  66  61  64  62  63  66  64  64
  63  65  87  77  89  93  93  93  93  93  92  92  91  92  92  91
  91  93  93  92  92  92  92  92  92  92  74  90  76  95  95  94
  93  64  80  74  72  64  66  63  63  63  71  61  64  64  60  63
  66  67  68  61  71  63  76  60  61  60  64  60  60  60  60  90
  93  93  93  93  93  93  93  93  93  93  93  93  93  93  93  93
  93  93  93  93  93  93  93 ' 93  93  93  93  93  93  92  93  92
  93  92  92  92  93  93  93  93  93  93  93  93  93  93  93  92
  93  93  93  92  93  92  92  93  93  93  93  93  93  92  78  60
  60  60  63  68  60  60  61  60  60  60  59  64  60  60  60  60
  60  60  63  64  60  60  60  73  65  60  61  65  86  85  84  84
  85  85  84  85  85  85  84  85  85  85  84  86  85  84  85  85
  85  85  85  85  85  85  85  84  79  72  60  60  60  60  74  72
  72  65  65  61  64  70  64  61  60  60  60  60  60  60  60  60
  60  60  60  60  60  63  62  64  73  84  84  82  81  81  81  81
#EOF



ENTER LOG DATE (DD/MM/YR) : 26/06/79
ENTER SITE CODE (5 CHARS) : MILCR
ENTER USER CODE (4 CHARS) : 2413
 ENTER JOB CODE (3 CHARS) : 001



   DATA LOGGED : 26 JUNE 1979           DATA ANALYZED : 27  AUG 1979
        LOGGER : 98-301/26                   SITE CODE : MILCR
 SERIAL NUMBER : 1221                         JOB CODE : 001
      BASELINE : 60 DB                       USER CODE : 2413
 DYNAMIC RANGE : 54 DB                       THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                STANDBY TIME =  16:36:20

           TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
OSHA LIMIT = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = [illegible]
PERIOD = 1 HOURS

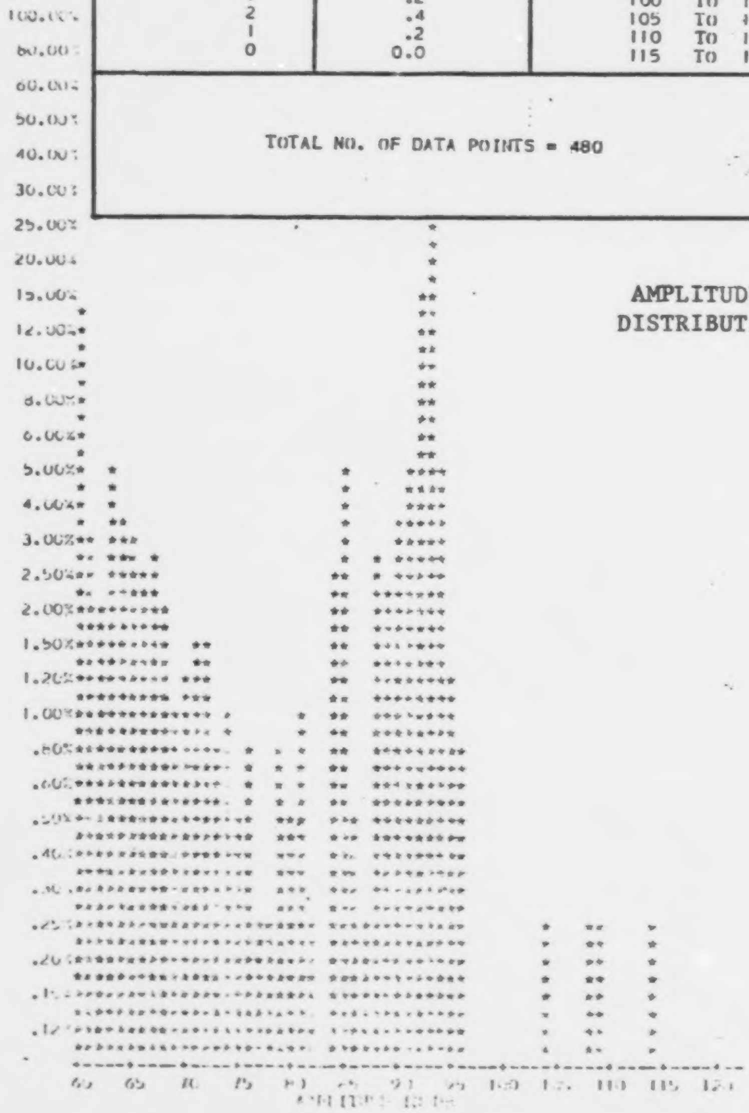

TIME           LOSHA                     %OSHA
HOUR    CURRENT   CUMULATIVE       CURRENT    CUMULATIVE
   1      92.2       92.2          17.927       17.93
   2      88.5       91.6          10.137       27.16
   3      89.4       [illegible]   [illegible]  [illegible]
   4      79.9       90.0           3.063       [illegible]
   5      [illegible] [illegible]  [illegible]  [illegible]
   6      93.2       [illegible]   12.7[illegible] [illegible]
   7      [illegible] [illegible]  [illegible]  [illegible]
   8      77.2       87.2           2.1[illegible] [illegible]
MIN. COMP. =  60 DB               MAX. COMP. = 111 DB
[illegible]
MAX. LEVEL [illegible]  =  14 [illegible]
[illegible]
```

(86)

FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
110	22.9	60 TO 64
45	9.4	65 TO 69
24	5.0	70 TO 74
10	2.1	75 TO 79
17	3.5	80 TO 84
43	9.0	85 TO 89
219	45.6	90 TO 94
8	1.7	95 TO 99
1	.2	100 TO 104
2	.4	105 TO 109
1	.2	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

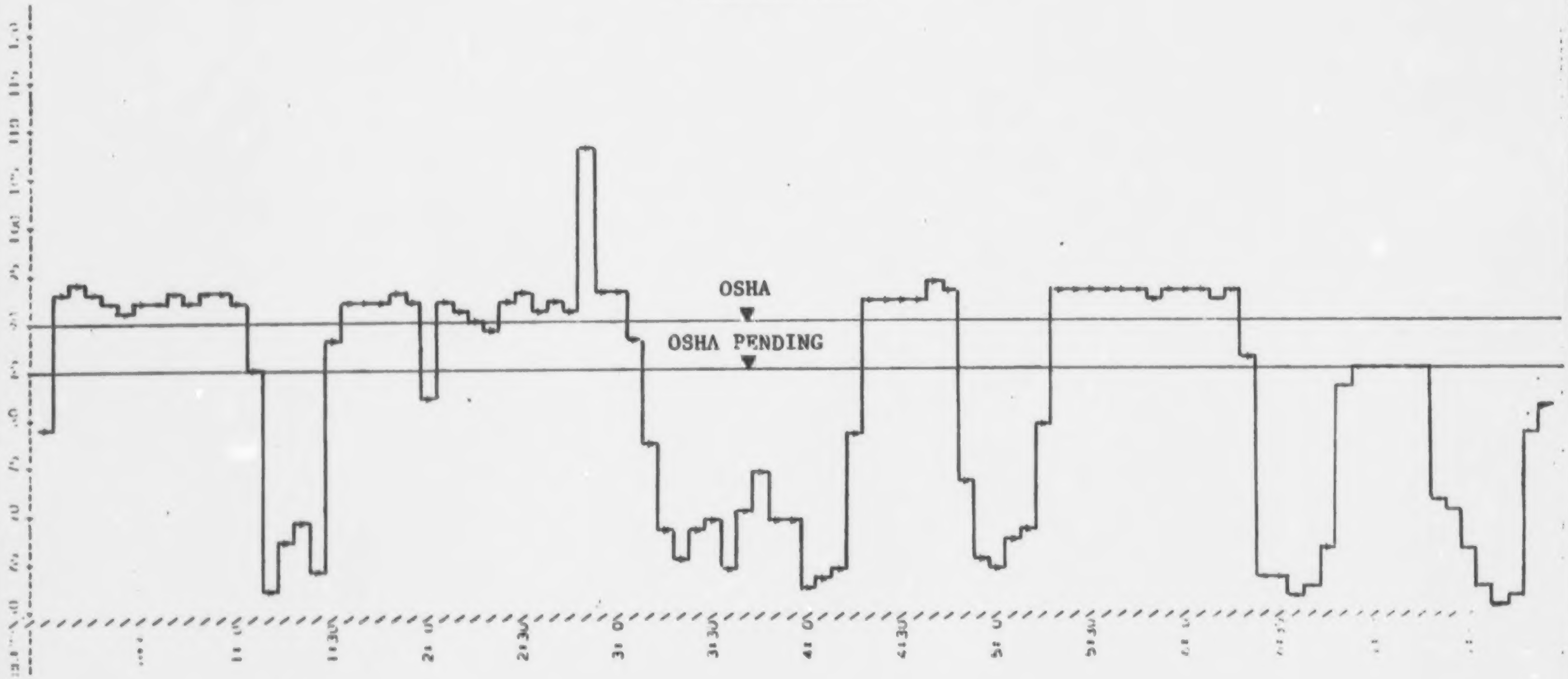


AMPLITUDE
DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

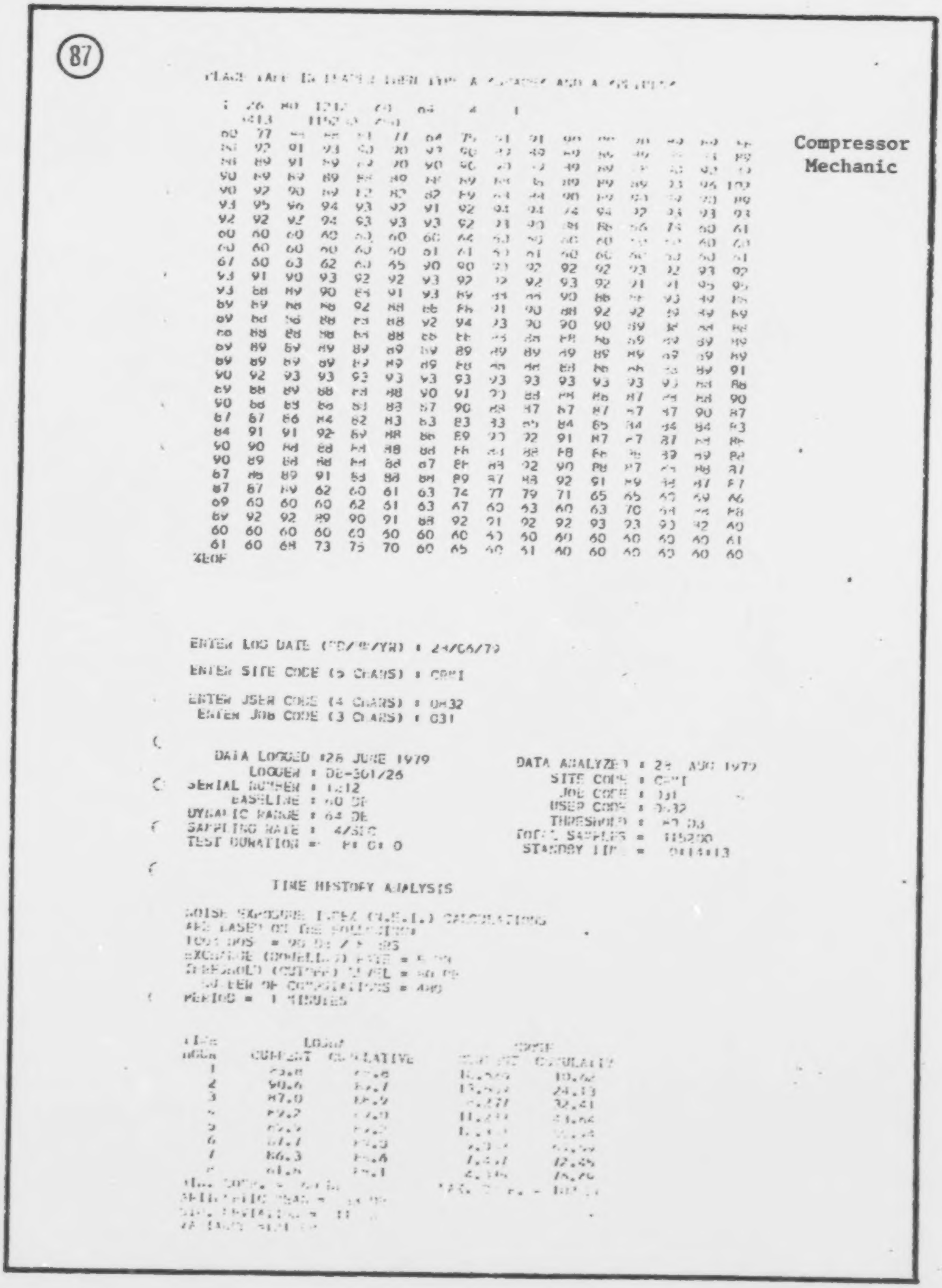
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



⑧⑥

(87)

Compressor Mechanic



```
[illegible]

 [illegible] 26 80 1212 [illegible] 04 4 1
   [illegible] [illegible]
 60 77 [illegible] [illegible] [illegible] 77 64 75 [illegible] 91 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
 [illegible] 92 91 93 [illegible] 90 93 90 [illegible] 89 [illegible] 86 [illegible] [illegible] [illegible] 89
 [illegible] 89 91 89 [illegible] 90 90 90 [illegible] [illegible] 89 89 [illegible] [illegible] [illegible] [illegible]
 90 89 89 89 88 89 88 89 88 85 89 89 89 33 96 102
 90 92 90 89 [illegible] 87 82 89 [illegible] [illegible] 90 89 93 [illegible] 93 89
 93 95 96 94 93 92 91 92 93 93 74 94 92 93 93 93
 92 92 92 94 93 93 93 92 93 90 84 86 56 75 60 61
 60 60 60 60 60 60 60 64 60 60 60 60 [illegible] [illegible] 60 60
 60 60 60 60 60 60 61 61 61 61 60 60 [illegible] [illegible] 60 61
 67 60 63 62 60 65 90 90 [illegible] 92 92 92 93 92 93 92
 93 91 90 93 92 92 93 92 92 92 93 92 91 91 95 95
 93 88 89 90 85 91 93 89 [illegible] [illegible] 90 86 [illegible] 93 89 85
 89 89 88 88 92 88 86 86 91 90 88 92 92 [illegible] 89 89
 89 88 88 88 85 88 92 94 93 90 90 90 89 [illegible] [illegible] 88
 86 88 88 88 85 88 86 88 [illegible] 86 88 86 89 [illegible] 89 89
 89 89 89 89 89 89 89 89 89 89 89 89 89 [illegible] 89 89
 89 89 89 89 89 89 89 88 [illegible] 88 88 86 [illegible] [illegible] 89 91
 90 92 93 93 93 93 93 93 93 93 93 93 93 93 [illegible] 86
 89 88 89 88 88 88 90 91 [illegible] 88 88 86 87 [illegible] 88 90
 90 88 89 86 85 83 87 90 88 87 87 87 87 87 90 87
 87 87 86 84 82 83 83 83 83 85 84 85 84 84 84 83
 84 91 91 92 89 88 86 89 [illegible] 92 91 87 87 87 [illegible] 86
 90 90 88 88 88 88 88 86 [illegible] 88 88 86 [illegible] 89 89 88
 90 89 88 88 88 88 87 88 89 92 90 88 87 [illegible] 88 87
 67 85 89 91 83 88 84 89 87 88 92 91 89 [illegible] 87 87
 87 67 89 62 60 61 63 74 77 79 71 65 65 [illegible] 69 66
 69 60 60 60 62 61 63 67 60 63 60 63 70 64 [illegible] 68
 89 92 92 89 90 91 88 92 91 92 92 93 93 93 92 90
 60 60 60 60 60 60 60 60 [illegible] 60 60 60 60 60 60 61
 61 60 68 73 75 70 60 65 60 61 60 60 60 60 60 60
%EOF



ENTER LOG DATE (MO/DY/YR) : 24/06/79

ENTER SITE CODE (5 CHARS) : C[illegible]I

ENTER USER CODE (4 CHARS) : 0H32
 ENTER JOB CODE (3 CHARS) : 031

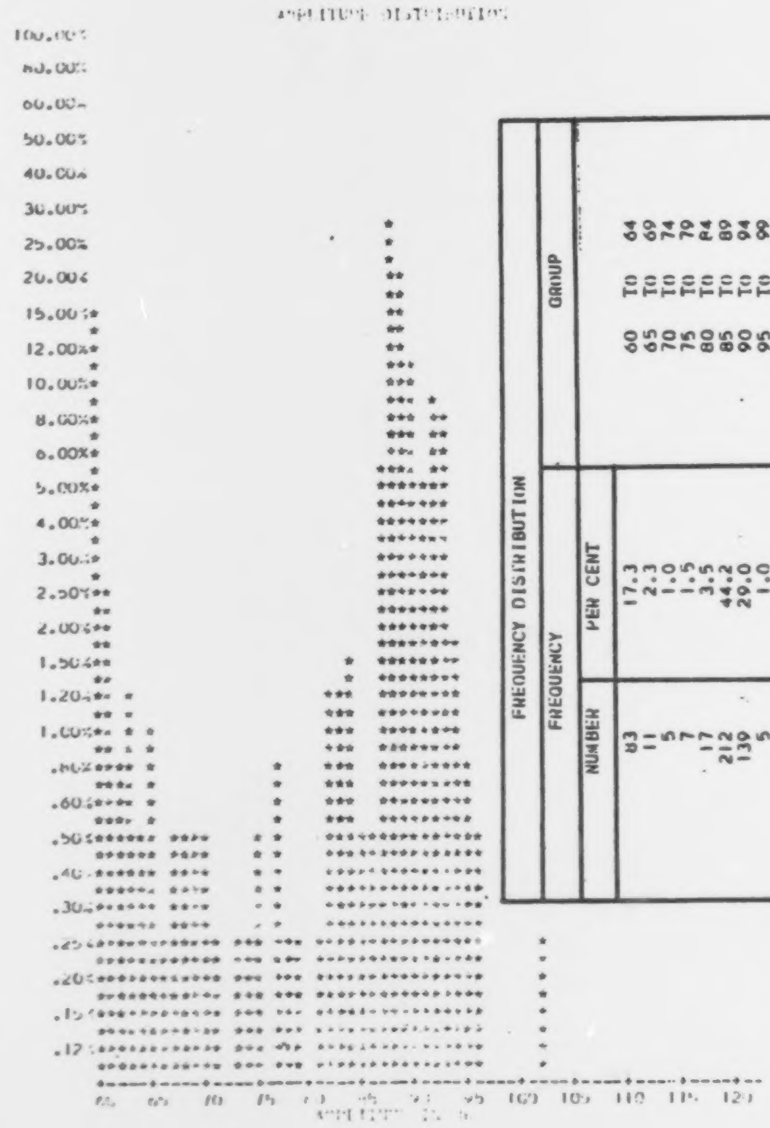
    DATA LOGGED :26 JUNE 1979                        DATA ANALYZED : 2[illegible] AUG 1979
         LOGGER : DB-301/26                                SITE CODE : C[illegible]I
  SERIAL NUMBER : 1212                                      JOB CODE : [illegible]31
       BASELINE : 60 DB                                    USER CODE : [illegible]32
  DYNAMIC RANGE : 64 DB                                    THRESHOLD : [illegible] DB
  SAMPLING RATE : 4/SEC                                TOTAL SAMPLES = 115200
  TEST DURATION = [illegible] 0                         STANDBY TIME = [illegible]13

             TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING
 100% DOS = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = [illegible]
  NUMBER OF COMPUTATIONS = 480
 PERIOD = 1 MINUTES

 TIME            LOSAV                       OSHA
 HOUR     CURRENT  CUMULATIVE        CURRENT  CUMULATIVE
   1       [illegible]     [illegible]          [illegible]     10.62
   2       90.6     [illegible]          [illegible]     24.13
   3       87.0     [illegible]          [illegible]     32.41
   4       [illegible]     [illegible]          11.2[illegible]     [illegible]
   5       [illegible]     [illegible]          [illegible]     [illegible]
   6       [illegible]     [illegible]          [illegible]     [illegible]
   7       86.3     [illegible]          7.[illegible]     72.45
   8       [illegible]     [illegible]          [illegible]     76.76
 [illegible]                              [illegible]
 [illegible]
 [illegible]
 [illegible]
```

(87)



FREQUENCY DISTRIBUTION

FREQUENCY NUMBER	FREQUENCY PER CENT	GROUP
83	17.3	60 TO 64
11	2.3	65 TO 69
5	1.0	70 TO 74
7	1.5	75 TO 79
17	3.5	80 TO 84
212	44.2	85 TO 89
139	29.0	90 TO 94
5	1.0	95 TO 99
1	.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

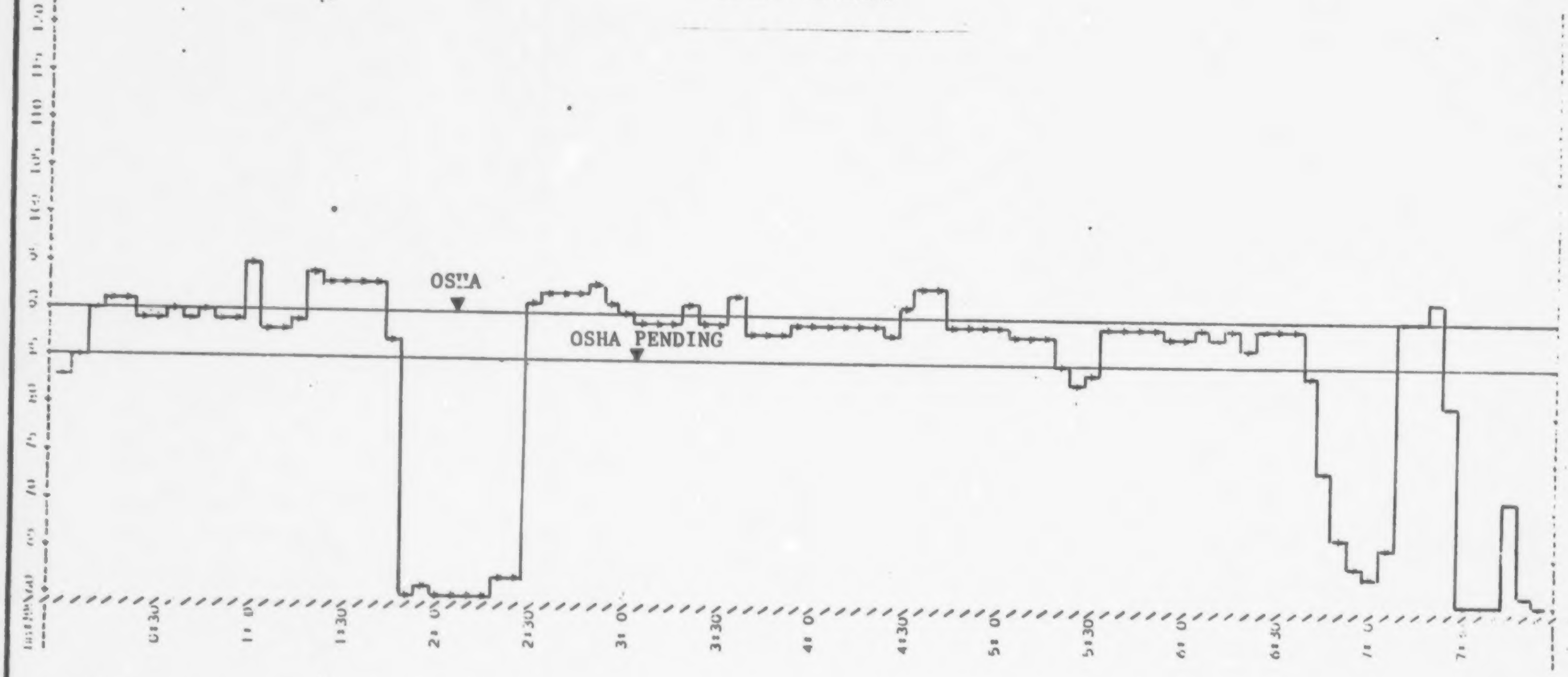
TOTAL NO. OF DATA POINTS = 480

Number of computations = 430

(87)

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Compressor Operator

```
[illegible]
  1  26 [illegible] 1217  [illegible]  64   [illegible]   1
   [illegible]41    115200  [illegible]
  60  74  60  92 [illegible] 74  63  77 [illegible] [illegible] [illegible] 96 [illegible] [illegible] [illegible] [illegible]
  96  97  91 [illegible] 91 [illegible] [illegible] [illegible] [illegible] 96  95  93 [illegible] 71  93 [illegible]
  93  93 [illegible] 90  91 [illegible] [illegible] [illegible] 92  65  85  64  65  70  92 [illegible]
  65  62  60  61  60  75 [illegible] 60  55  61  60  60  62  72  60  63
  60  60  60  60  60 [illegible] 61 [illegible] 91  90  75  67  72  73 [illegible] 92
  92  91  92  92  91  92  91  91  92  92  89  93  92  92  92  91
  94  80  90  95  92 [illegible] [illegible] 79  92  92  93  86  89  60  62  60
  68  60  67  61  68  73  67 [illegible] 70  62  63  71  60  60  60  60
  60  63  63  71  71  67 100 101 101 101 101 101 101 102 102 102
 102 102 102 102 102 102 102 102 102 102 102 102 102 102 102 101
  91  90  91  96  92  92  92  92  92  73  90  97  96  79  74  95
  92  92  94  95  94  93 [illegible] 79  93  76  60  60  60  60  60  60
  92 111 109  94  92 107  96  89  91  73  90  95  95  93  92  93
  93  90  95  96  86  60  60  60  60  63  94 100 [illegible] [illegible] [illegible] 99
  99  99  99  99 100 101  99  99  99  99  99  99 [illegible] 99  99  99
  99  99  99  99  99  99  99  96  99  99  99  99  99  99  99  99
  99  99  99  99  99  90  99  99  99  99  99  99  99  99  90  99
  99  99  99  99  99  99  99  99  99  99  99  99  99  99  99  99
  99  99  99  99  99  99  99  99  99  99 [illegible] 99  99  99  99  99
  99  96  99  99  99  99  99  99  94  93  91  94  95  94  91  91
  90  91  91  92  92  90  93  95  92  91  92  94  93  91  91  91
  92  92  92  90  93  90  90  92  92  92  92  90  76  74  92  91
  92  91  92  89 105 111 110 111 104 108 108  96  92  91  87  83
  89  86  89  96  91  96  95  94  93  93  94  89  73  82  80  80
  77  74  71  73  75  83  86  92  93  97  93  92  85  82  83  88
  88  88  90  92  92  93  93  86 100 106  93  90  96  76  96  96
  96  96  96  96  95  96  96  95  91  80  62  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  66  70  72
  60  60  63  60  60  60  60  60  63  50  50  60  60  60  60  60
  60  60  63  67  60  68  66  61  63  62  61  64  65  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 25/05/79
ENTER SITE CODE (5 CHARS) : CR"IL
ENTER USER CODE (4 CHARS) : 435F
 ENTER JOB CODE (3 CHARS) : 101


   DATA LOGGED :28 JUNE 1979              DATA ANALYZED : 28  AUG 1979
         LOGGER : DB-301/26                       SITE CODE : CR"IL
  SERIAL NUMBER : 1217                             JOB CODE : 101
       BASELINE : 60 DB                           USER CODE : 435F
  DYNAMIC RANGE : 64 DB                           THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC                      TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0                    STANDBY TIME =   0:23:55

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
   1       90.6       90.6         13.5[illegible]      13.47
   2       87.4       89.2          8.717      22.37
   3       97.1       92.9         33.34[illegible]      [illegible].72
   4       95.8       94.1         32.111      87.83
   5       99.0       95.4         43.524     131.36
   6       97.2       95.7         [illegible].711     16[illegible].07
   7       94.7       9[illegible].[illegible]         [illegible].11[illegible]     1[illegible].1[illegible]
   8       [illegible].0       94.7          [illegible]     191.56
MIN. COMP. =  60 DB                MAX. COMP. = 111 DB
ARITHMETIC MEAN =  86 DB
STD. DEVIATION = [illegible]
VARIANCE =[illegible]
```

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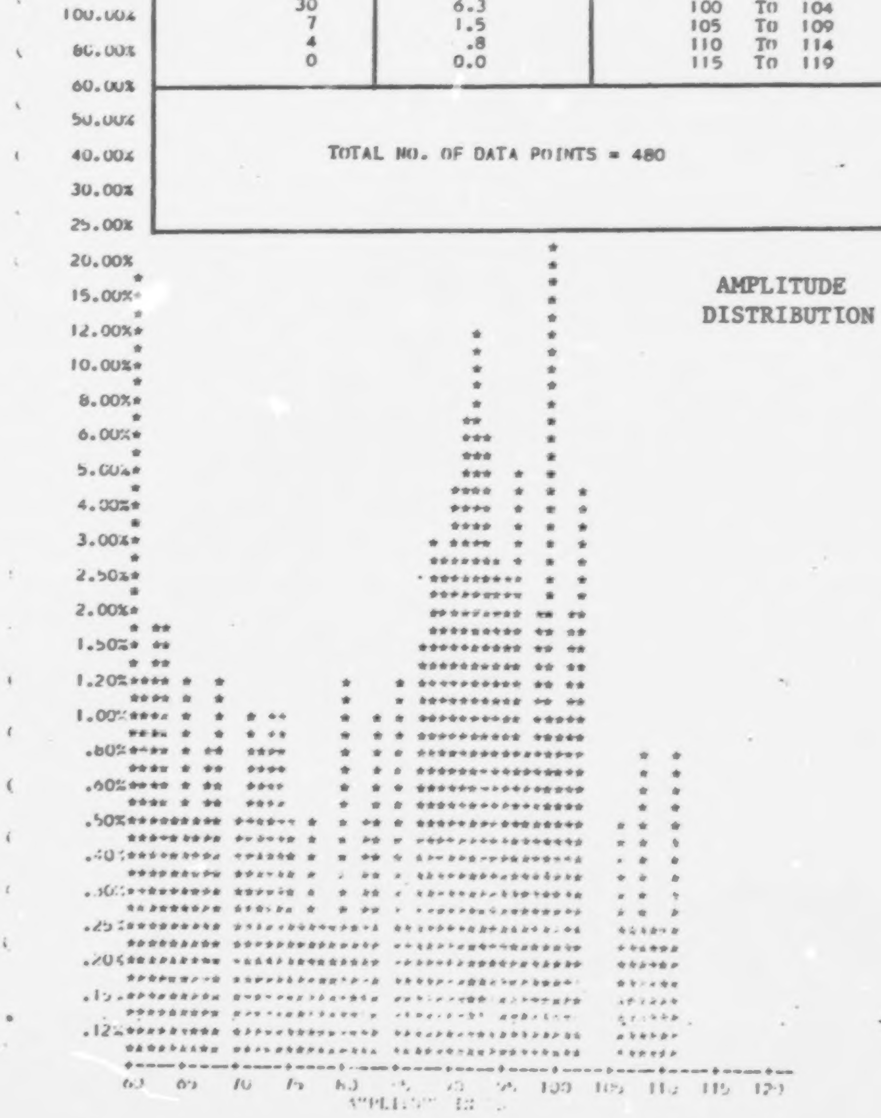
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
90	18.8	60 To 64
15	3.1	65 To 69
17	3.5	70 To 74
7	1.5	75 To 79
12	2.5	80 To 84
35	7.3	85 To 89
131	27.3	90 To 94
132	27.5	95 To 99
30	6.3	100 To 104
7	1.5	105 To 109
4	.8	110 To 114
0	0.0	115 To 119

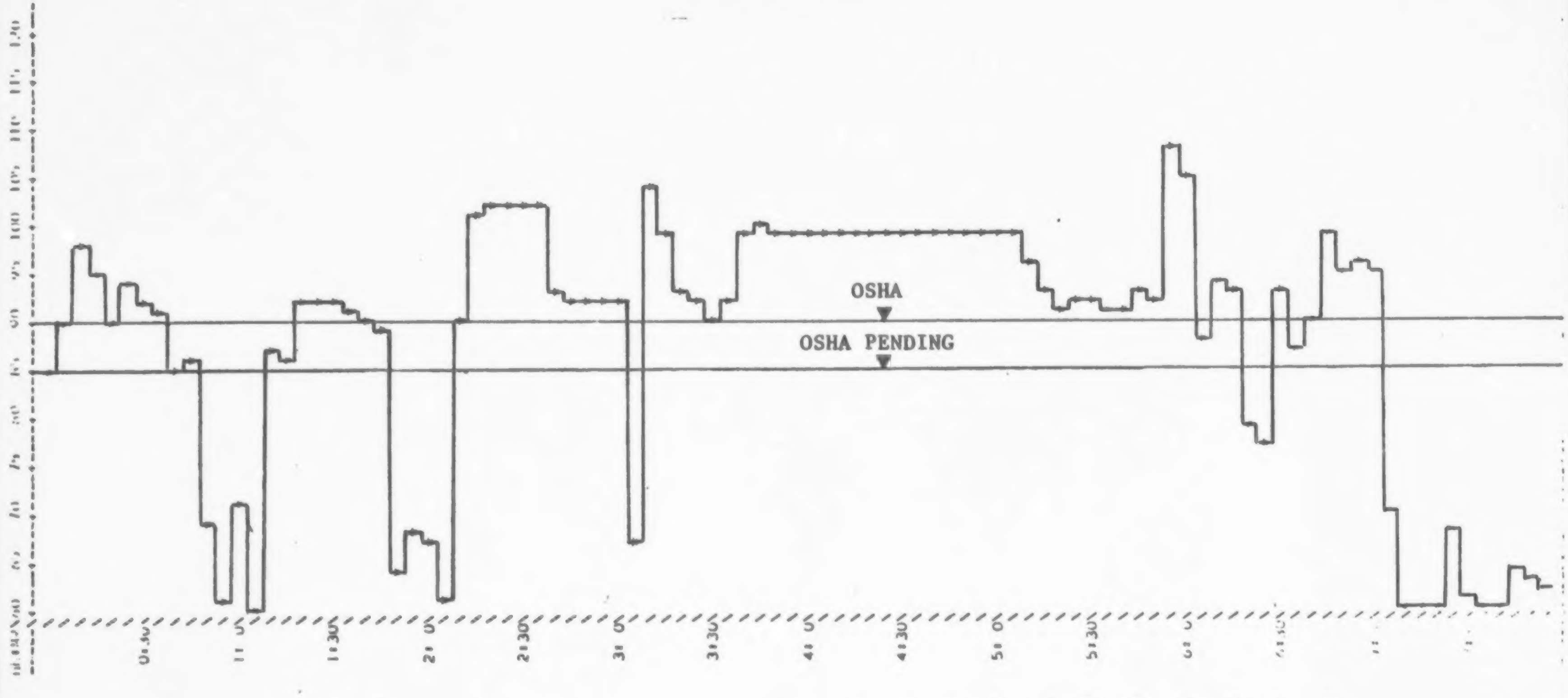
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(88)

(89)

Compressor
Mechanic

```
[illegible]

[illegible]
[illegible]
[illegible]
91   70   91   91   91   [illegible]   [illegible]   [illegible]   91   [illegible]   91   [illegible]   [illegible]   111   112   100
89   [illegible]   [illegible]   91   91   91   91   91   91   [illegible]   91   91   91   91   [illegible]   90
[illegible]   [illegible]   [illegible]   [illegible]   91   91   91   91   91   91   91   91   91   91   [illegible]   92
92   91   91   91   91   91   91   91   91   91   91   91   91   91   91   91
91   91   91   91   91   91   91   91   91   91   91   91   91   91   91   92
92   92   91   [illegible]   90   92   92   92   [illegible]   [illegible]   91   93   91   91   90   90
91   90   90   90   90   90   91   91   91   91   91   90   91   91   91   90
90   91   91   90   91   91   92   92   91   91   91   91   90   91   91   91
91   92   91   91   91   91   91   91   91   91   [illegible]   [illegible]   [illegible]   [illegible]   91   91
90   90   91   92   89   91   91   90   91   90   91   91   91   91   90   90
90   90   90   90   90   90   [illegible]   [illegible]   90   91   92   90   90   90   93   90
90   90   90   90   91   90   90   90   90   91   92   92   91   91   91   92
93   92   91   91   87   89   90   90   91   92   [illegible]   [illegible]   92   91   91   91
92   90   87   87   87   84   [illegible]   [illegible]   [illegible]   [illegible]   [illegible]   60   60   [illegible]   [illegible]   [illegible]
60   60   60   77   63   63   60   [illegible]   71   63   [illegible]   63   [illegible]   [illegible]   74   60
90   91   91   91   92   94   93   92   92   95   95   95   [illegible]   93   74   62
60   60   60   60   61   [illegible]   60   60   60   60   60   60   60   60   60   60
60   60   64   [illegible]   71   65   60   62   60   61   60   60   60   60   60   60
EOF


ENTER LOG DATE (MM/DD/YY) : [illegible]/26/79
ENTER SITE CODE (5 CHARS) : [illegible]
ENTER USER CODE (4 CHARS) : 2413

ENTER JOB CODE (3 CHARS) : [illegible]

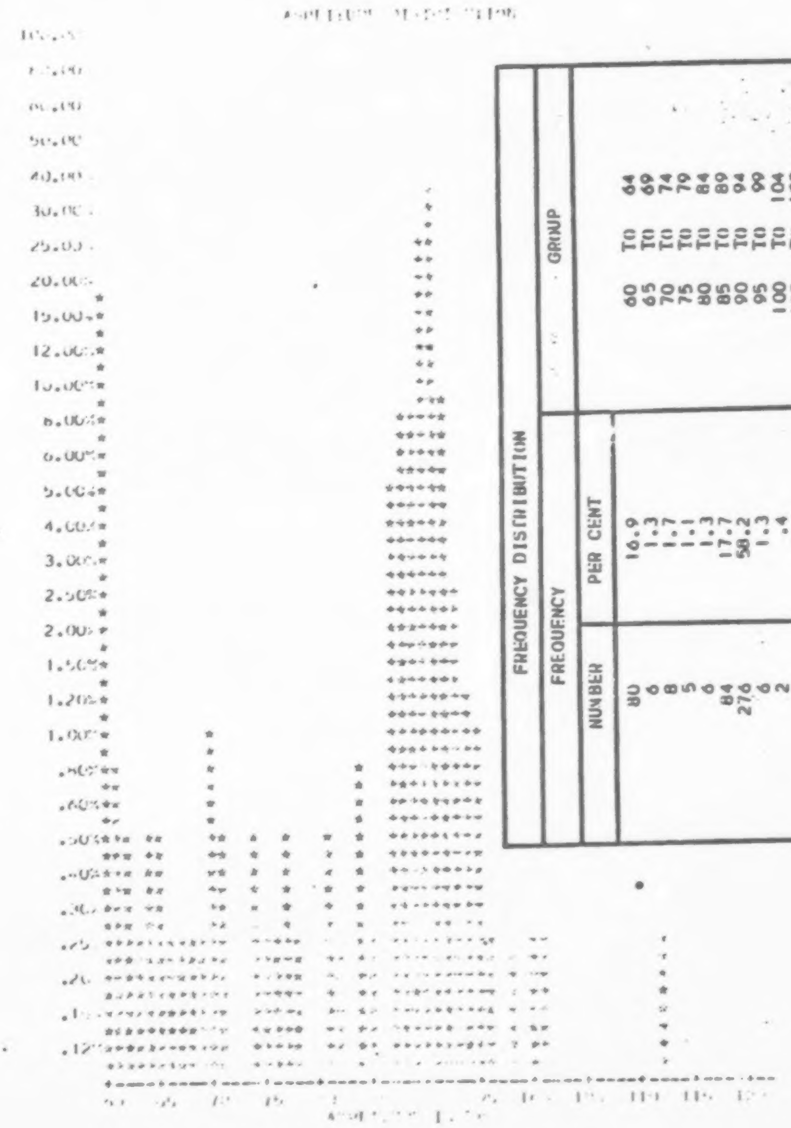

     DATA LOGGED :24 JUNE 1979                DATA ANALYZED : 1[illegible] DEC 1979
          EPROM# : 98-[illegible]1/25                SITE CODE : [illegible]
   SERIAL NUMBER : 122[illegible]                    JOB CODE : [illegible]
        BASELINE : 60 DB                      USER CODE : 2413
   DYNAMIC RANGE : 64 DB                      GROUPSIZE : [illegible]
   SAMPLING RATE : 4/SEC                TOTAL SAMPLES = 115[illegible]
   TEST DURATION =  [illegible]             STANDBY TIME = [illegible]23:27

              TIME HISTORY ANALYSIS

NOISE EXPOSURE LEVEL (N.E.L.) CALCULATION
ARE BASED ON THE FOLLOWING:
[illegible]
[illegible]
[illegible]
  [illegible]
[illegible]

TIME          [illegible]                 [illegible]
[illegible]   [illegible]   [illegible]    [illegible]
   1          [illegible]     [illegible]        [illegible]       [illegible]
   2          [illegible]     [illegible]        [illegible]       1[illegible].60
   3          [illegible]     [illegible]        7.[illegible]       [illegible]
   4          [illegible]     [illegible]       10.[illegible]       [illegible]
   5          [illegible]     [illegible]       14.[illegible]       [illegible]
   6          [illegible]     [illegible]        1[illegible]       [illegible]
   7          [illegible]     [illegible]       11.[illegible]       [illegible]
   8          [illegible]     [illegible]        [illegible]       [illegible]
[illegible]                         [illegible]
[illegible]
[illegible]
[illegible]
```

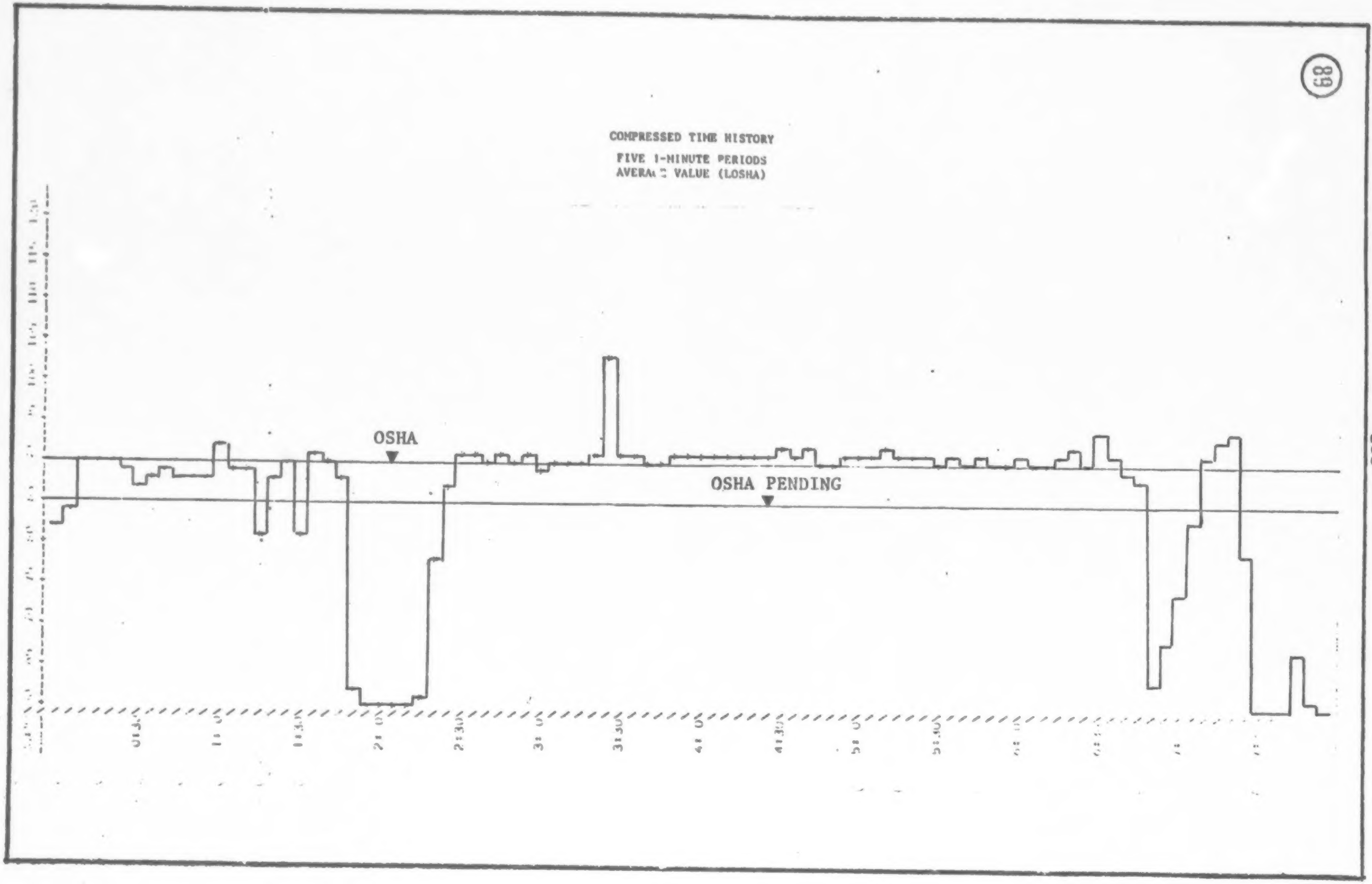
(89)



FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
80	16.9	60 TO 64
6	1.3	65 TO 69
8	1.7	70 TO 74
5	1.1	75 TO 79
6	1.3	80 TO 84
84	17.7	85 TO 89
276	58.2	90 TO 94
6	1.3	95 TO 99
2	.4	100 TO 104
0	0.0	105 TO 109
1	.2	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480



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COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
5: 0
5:30
6: 0
6:30
7: 0

(90)

Compressor Mechanic

```
PLACE TAPE IN READER THEN TYPE A <SPACE> AND A <RETURN>
  1  26  80  1213  60  64   4   1
     149      115200  4
  79  82  85  90  65  72  66  90  91  90  90  90  90  90  90  90
  90  90  90  90  90  90  90  90  90  90  90  90  90  91  90  90
  90  90  90  90  90  90  90  90  90  90  89  90  93  92  93  91
  92  91  91  85  87  91  90  92  93  95  94  94  94  95  94  94
  93  94  94  93  94  92  94  93  93  93  94  94  93  95  94  95
  95  94  94  95  93  90  89  89  92  89  76  60  71  65  70  62
  63  60  90  92  76  81  80  80  80  80  80  76  77  80  80  79
  74  79  80  80  81  81  80  80  79  80  80  77  86  92  93  90
  90  90  90  92  91  93  94  94  94  91  90  90  90  92  76  67
  60  60  60  60  60  60  60  60  60  60  60  60  72  85  90  91
  61  61  68  62  91  94  95  95  93  97  94  94  94  94  96  96
  95  93  94  95  97  96  94  94  94  96  96  92  95  95  96  93
  94  95  96  92  93  95  95  92  89  89  90  92  92  92  92  92
  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92
  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92
  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92
  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92  92
  92  92  92  93  93  93  93  92  92  92  92  91  92  92  92  89
  92  92  69  91  89  89  86  82  90  91  93  96  97  96  93  95
  96  98  94  95  97  95  97  97  95  94  96  96  90  92  91  90
  90  89  88  91  89  89  89  92  92  90  91  89  76  74  80  73
  72  72  70  62  64  60  70  75  67  70  73  60  70  63  65  67
  68  76  84  89  89  89  89  89  89  89  89  89  89  90  92  92
  90  90  89  89  89  93  90  90  92  92  89  88  89  89  89  90
  91  91  91  91  92  92  93  94  93  93  93  93  92  89  90  93
  96  95  95  95  95  95  95  95  95  95  95  95  95  95  95  95
  95  95  95  95  95  95  95  95  95  95  92  68  75  60  60  60
  60  60  60  60  64  63  62  60  60  64  67  60  60  60  61  60
  62  60  60  60  60  60  60  60  60  64  63  62  66  62  70  66
  60  61  65  68  64  66  67  60  63  60  65  60  63  60  60  61
%EOF
```

```
ENTER LOG DATE (DD/MM/YR) : 29/05/79
ENTER SITE CODE (5 CHARS) : MILCR
ENTER USER CODE (4 CHARS) : 0832
 ENTER JOB CODE (3 CHARS) : 031
```

```
   DATA LOGGED :29 JUNE 1979              DATA ANALYZED : 28  AUG 1979
       LOGGER : DB-301/26                      SITE CODE : MILCR
SERIAL NUMBER : 1213                            JOB CODE : 031
     BASELINE : 60 DB                          USER CODE : 0832
DYNAMIC RANGE : 64 DB                          THRESHOLD :  80 DB
SAMPLING RATE :  4/SEC                     TOTAL SAMPLES =  115200
TEST DURATION =   8: 0: 0                   STANDBY TIME =   0: 0:37

         TIME HISTORY ANALYSIS

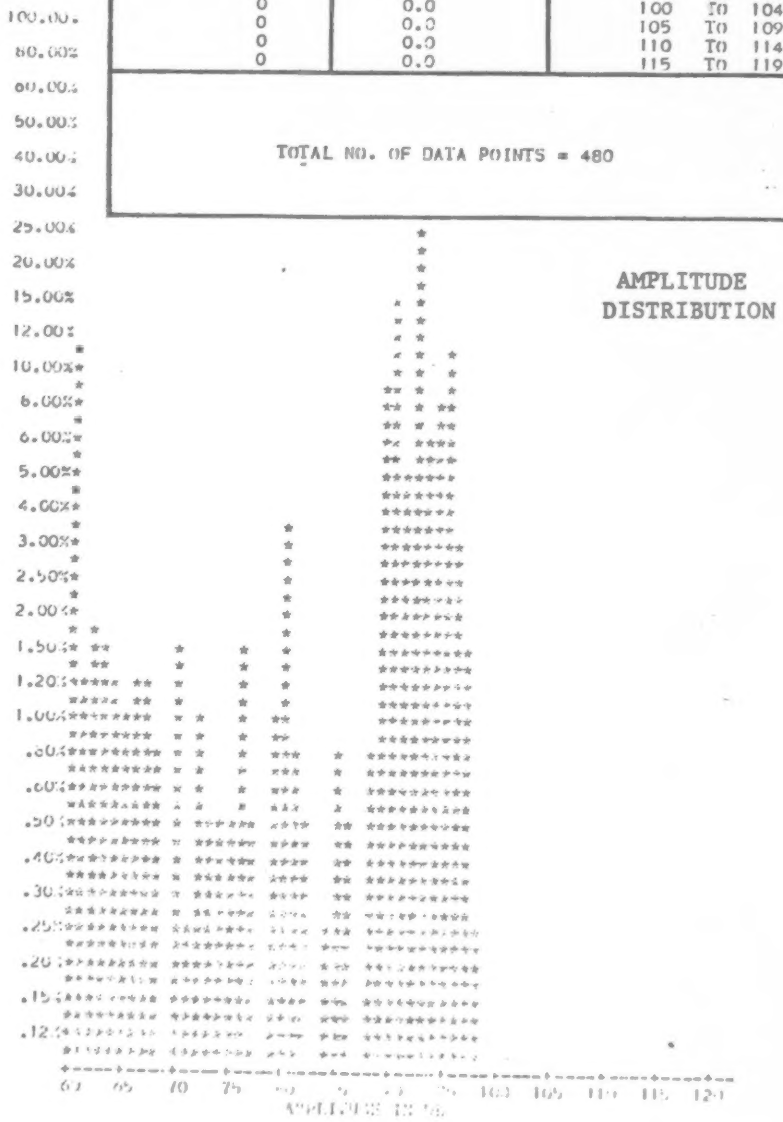
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = [illegible] DB, 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD = 1 MINUTES

TIME           LOSHA                      %DOSE
HOUR    CURRENT  CUMULATIVE        CURRENT   CUMULATIVE
  1      90.0      90.0            12.573      12.57
  2      [illegible]  [illegible]  11.[illegible]  [illegible].95
  3      [illegible]  [illegible]  11.[illegible]  [illegible]
  4      [illegible]  [illegible]  1[illegible]    [illegible].19
  5      91.8      [illegible].8   15.[illegible]  7[illegible].19
  6      [illegible]  [illegible]  12.[illegible]  [illegible]
  7      [illegible]  [illegible]  17.[illegible]  [illegible]
  8      [illegible]  [illegible]  [illegible]     1[illegible].44
[illegible]                        [illegible] = [illegible] DB
[illegible]
[illegible]
[illegible]
```

(90)

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
66	13.8	60 TO 64
17	3.5	65 TO 69
15	3.1	70 TO 74
14	2.9	75 TO 79
20	4.2	80 TO 84
43	9.0	85 TO 89
241	50.2	90 TO 94
64	13.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

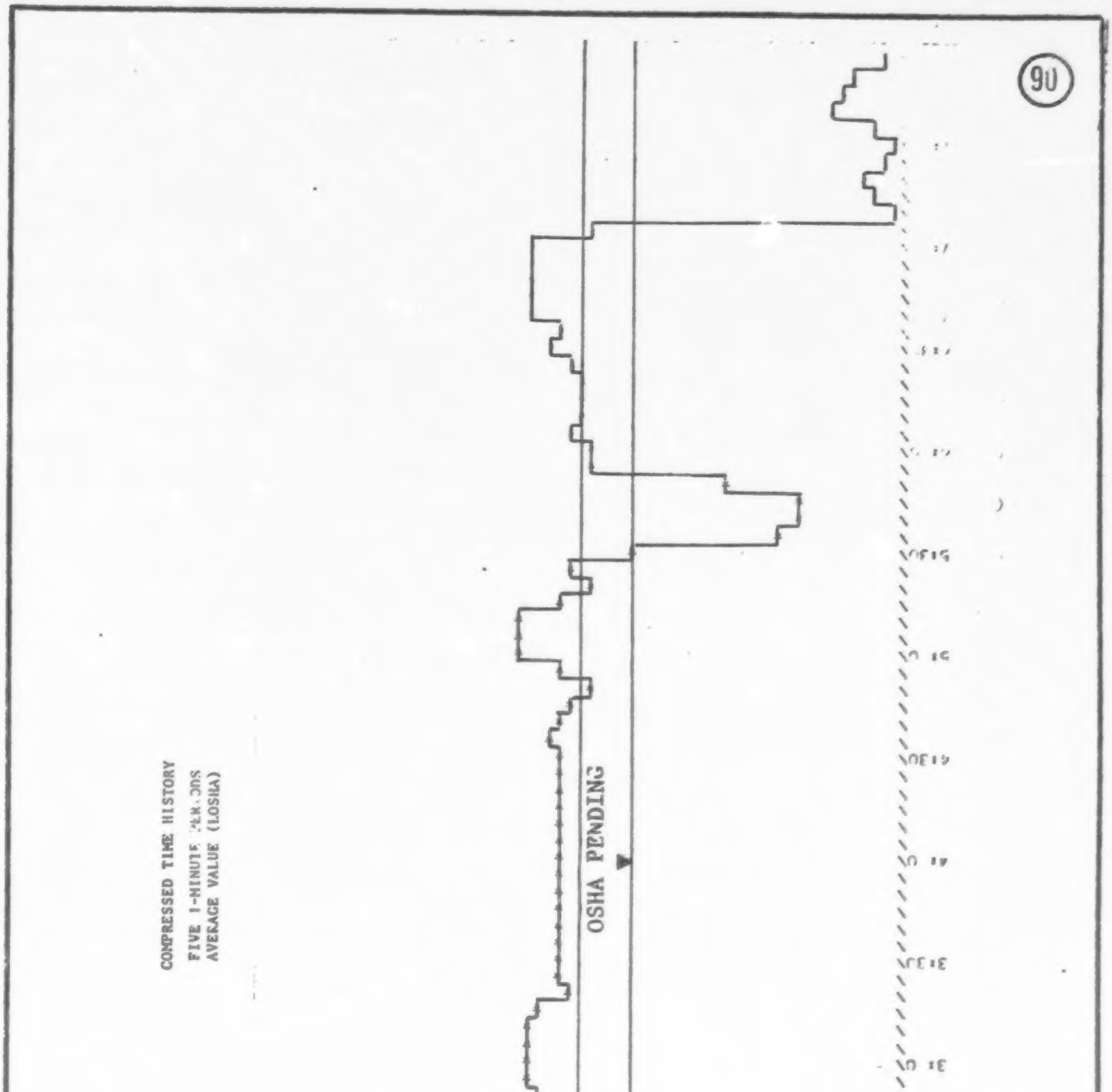
TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480

(90)


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA PENDING
OSHA

(91)

Compressor Mechanic

```
[illegible]
[illegible]
[illegible]
 90 [illegible] [illegible] [illegible] 77 93 [illegible] 94 93 93 93 93 [illegible] [illegible] 93 92
 95 90 94 94 94 92 [illegible] 93 94 [illegible] 93 93 94 [illegible] 94 93
 93 93 93 92 93 93 94 93 93 93 93 94 92 91 [illegible] 93
 93 93 94 93 93 93 93 93 [illegible] 93 93 93 93 [illegible] [illegible] 92
 93 93 93 91 92 90 91 92 [illegible] [illegible] 1 90 90 92 90 91
 92 94 91 93 93 93 91 97 93 92 93 93 93 [illegible] 92 93
 92 90 91 93 92 89 93 94 94 94 93 94 94 94 94 92
 94 94 93 94 94 94 93 94 94 94 90 91 92 91 90 90
 92 92 91 90 90 91 91 90 93 92 92 93 93 92 90 90
 90 91 92 91 90 94 92 91 [illegible] [illegible] [illegible] 88 [illegible] [illegible] [illegible] 86
 89 89 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 88 [illegible] [illegible] 87 91
 92 94 92 93 94 92 92 92 92 93 92 91 91 92 92 91
 91 92 93 90 90 92 92 89 [illegible] 87 87 88 92 92 93 [illegible]
 90 92 94 92 88 90 90 92 93 93 93 93 93 93 93 93
 93 93 93 93 93 93 93 95 94 93 93 93 93 93 94 93
 93 92 93 93 93 93 93 93 93 93 93 93 93 93 93 93
 93 93 93 92 92 92 92 93 92 92 92 92 92 92 92 92
 93 94 92 86 91 91 94 92 91 93 91 90 [illegible] 88 88 89
 95 88 92 90 88 88 88 89 93 89 90 94 93 92 90 92
 92 94 91 93 93 92 92 94 92 91 92 92 [illegible] [illegible] 93 88
 87 88 88 88 88 88 88 88 88 [illegible] 88 88 [illegible] [illegible] 88 88
 89 88 91 90 90 91 91 91 79 [illegible] 92 92 92 93 93 92
 93 93 93 93 92 92 92 90 91 92 92 92 92 [illegible] 87 87
 89 88 96 97 91 92 92 92 92 92 92 92 92 92 92 92
 91 92 91 92 92 92 92 92 84 79 84 89 90 91 92 92
 92 92 92 92 91 91 92 92 91 93 93 93 92 91 84 86
 88 87 88 89 89 89 88 88 92 90 92 91 77 60 60 60
 62 60 60 60 63 65 61 60 59 55 59 60 60 60 61 60
 61 60 60 60 60 60 60 60 60 54 63 63 69 60 73 68
 60 62 67 70 63 67 71 61 55 59 66 60 53 60 60 61
$EOF


ENTER LOG DATE (DY/MO/YR) : 29/06/79
ENTER SITE CODE (5 CHARS) : MILCR

ENTER USER CODE (4 CHARS) : 2413
 ENTER JOB CODE (3 CHARS) : 001



   DATA LOGGED :29 JUNE 1979            DATA ANALYZED : 2[illegible] AUG 1979
        LOGGER : DB-301/24                    SITE CODE : MILCR
 SERIAL NUMBER : 1221                          JOB CODE : 001
      BASELINE : 60 DB                        USER CODE : 2413
 DYNAMIC RANGE : 50 DB                        THRESHOLD : [illegible] DB
 SAMPLING RATE : 4/SEC                    TOTAL SAMPLES = 115200
 TEST DURATION =  8: 0: 0                  STANDBY TIME =   0: 0: 1

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING :
100% LIMIT = [illegible]
EXCHANGE (DOUBLING) RATE = [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
[illegible] = [illegible]
PERIOD = 1 HOURS

TIME        LEQ                       DOSE
HOUR   CURRENT  CUMULATIVE      CURRENT  CUMULATIVE
  1     [illegible]  [illegible]     [illegible]   [illegible]
  2     92.[illegible]  92.[illegible]     17.47     35.41
  3     [illegible]  91.9      13.[illegible]   [illegible]
  4     91.[illegible]  91.9      16.1[illegible]   66.01
  5     91.7  91.[illegible]     [illegible]   [illegible]
  6     [illegible]  91.7      [illegible]   [illegible]
  7     91.[illegible]  91.[illegible]     [illegible]   [illegible]
  8     [illegible]  [illegible]     [illegible]   111.4[illegible]
MIN. COMP. = 60 DB            MAX. COMP. = 97 DB
[illegible]
[illegible]
[illegible]
```

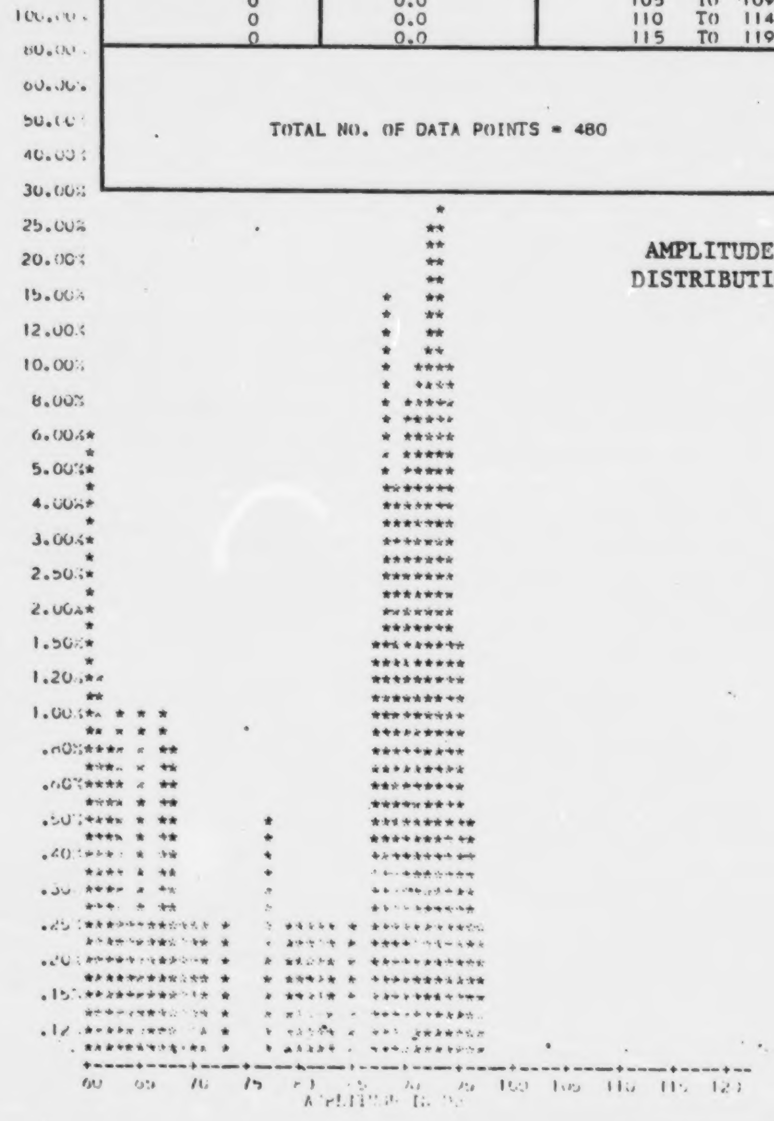
91

FREQUENCY DISTRIBUTION

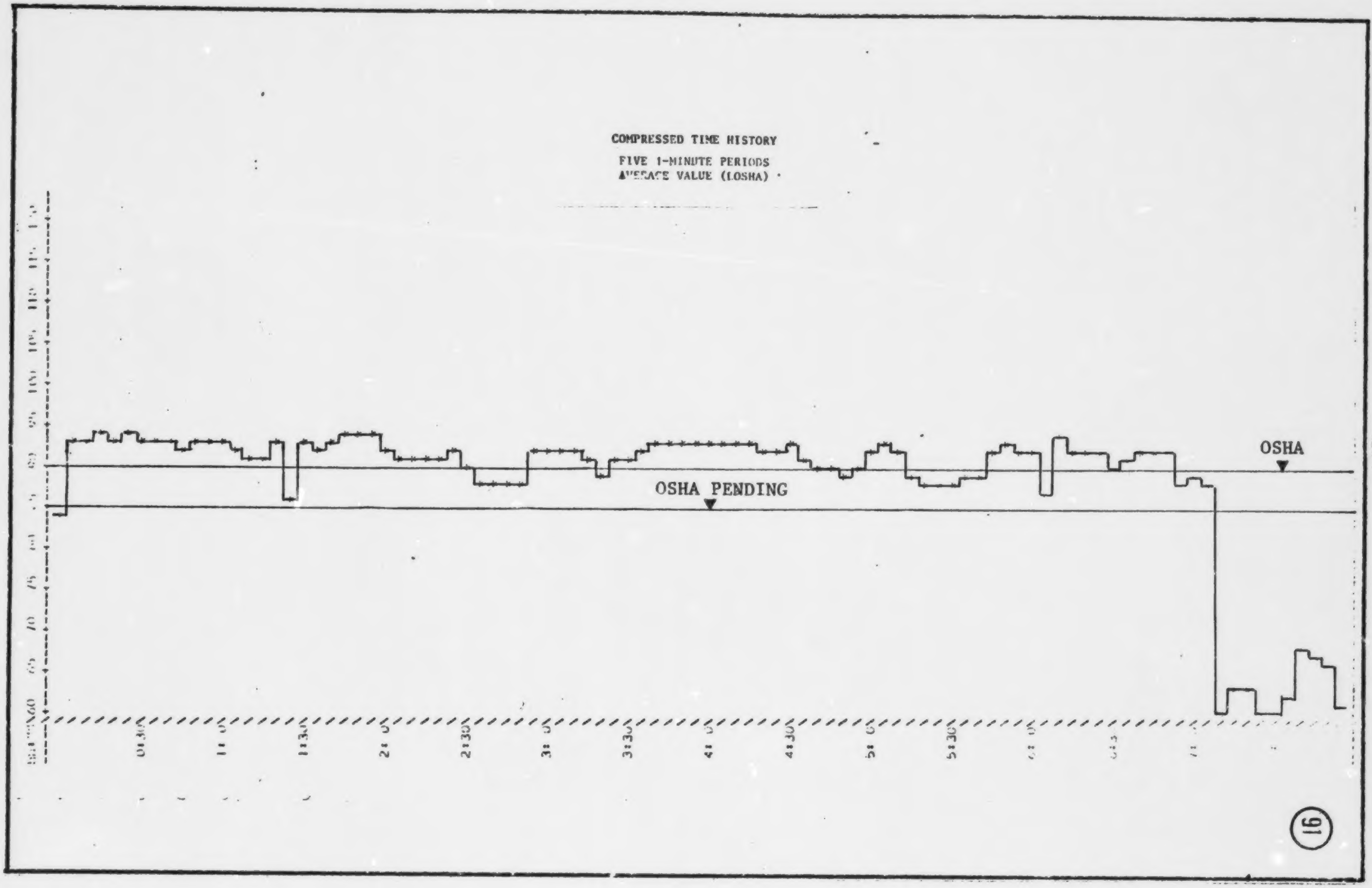
FREQUENCY		GROUP
NUMBER	PER CENT	
38	7.9	60 TO 64
13	2.7	65 TO 69
3	.6	70 TO 74
3	.6	75 TO 79
4	.8	80 TO 84
90	18.8	85 TO 89
320	66.7	90 TO 94
9	1.9	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

AMPLITUDE
DISTRIBUTION



Number of computations = 480



COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA) ·

(91)

Compressor Mechanic

(92)

```
[illegible]
  1  [illegible]  1217  [illegible]           1
     [illegible]  115[illegible]
  73  75  74  90  [illegible]  [illegible]  [illegible]  [illegible]  75  [illegible]  97  97  [illegible]  97  97  92
  62  60  60  61  63  60  [illegible]  93  91  95  95  93  [illegible]  94  91  93
  92  92  92  92  92  92  [illegible]  92  91  93  92  93  [illegible]  [illegible]  93  94
  94  94  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  [illegible]  92  95  92  90  [illegible]  92  93  93
  92  [illegible]  [illegible]  93  [illegible]  91  [illegible]  [illegible]  93  [illegible]  [illegible]  92  [illegible]  [illegible]  91  95
  95  93  87  85  [illegible]  86  92  [illegible]  75  72  91  90  77  84  73  73
  72  70  70  60  67  [illegible]  [illegible]  [illegible]  81  80  64  63  74  57  62  65
  60  67  75  60  72  [illegible]  [illegible]  [illegible]  75  74  76  79  77  73  75  82
  60  80  75  81  75  74  71  [illegible]  [illegible]  [illegible]  [illegible] 101 103 103 103 103
 103 102 102 102 102 102 102 [illegible] [illegible] [illegible] [illegible] 102 [illegible] [illegible] 102 102
 103 103 103  93  95  [illegible]  92  92  91  92  92  93  93  91  93  93
  86  84  87  85  84  86  81  [illegible]  [illegible]  [illegible]  94  93  92  93  93  91
  93  96  [illegible]  92  91  92  92  [illegible]  93  92  [illegible]  60  60  [illegible]  60  60
  60  63  62  60  60  60  63  [illegible]  99  99  99  99  [illegible]  99  99  99
  99  99  99  99  99  99  99  99  [illegible]  99  99  99  [illegible]  99  99  99
  99  99  99  99  99  99  99  [illegible]  92  99  99  99  [illegible]  99  99  99
  99  99  99  99  99  99  99  99  99  99  99  99  99  99  99  99
  99  99  99  98  92  88  89  91  94  96  96  92  92  91  91  92
  92  93  75  84  83  87  76  61  63  59  83  81  76  86  93  93
  92  93  96  95  94  95  93  92  94  94  95  85  [illegible]  83  94  89
  87  87  87  94  96  95  93  92  92  93  92  93  93  95  95  94
  92  94  94  95  95  91  94  93  93  91  92  92  92  92  91  90
  91  92  93  93  92  93  95  92  83  60  73  96  79  89  89  92
  91  90  90  87  80  94  97  94  92  90  89  86  89  92  92  93
  87  87  96  96  98  98  97  98  93  93  98  96  96  98  96  91
  61  74  74  73  71  71  72  76  71  74  [illegible]  62  65  58  67  67
  66  72  69  60  60  60  60  [illegible]  92  78  60  60  60  61  60  60
  60  60  62  60  60  60  60  64  60  50  60  61  60  60  60  60
  60  60  60  60  60  60  60  60  57  60  60  66  67  50  60  63
  64  64  65  64  64  62  60  60  61  60  60  60  60  50  50  60
%EOF



ENTER LOG DATE (MO/DY/YR) : [illegible]/79
ENTER SITE CODE (5 CHARS) : [illegible]
ENTER USER CODE (4 CHARS) : 43[illegible]
 ENTER JOB CODE (3 CHARS) : 1[illegible]1



    DATA LOGGED :29 JUNE 1979              DATA ANALYZED : 2[illegible] AUG 1979
         LOGGER : 5[illegible]-301/26                 SITE CODE : [illegible]ILC[illegible]
  SERIAL NUMBER : 1217                         JOB CODE : 101
       BASELINE : 50 DB                       USER CODE : 43[illegible]
  DYNAMIC RANGE : 54 DB                       THRESHOLD : [illegible] DB
  SAMPLING RATE :  4/SEC                  TOTAL SAMPLES =  115[illegible]
  TEST DURATION =   8: 01 0                STANDBY TIME =  [illegible]: 1:24

            TIME HISTORY ANALYSIS

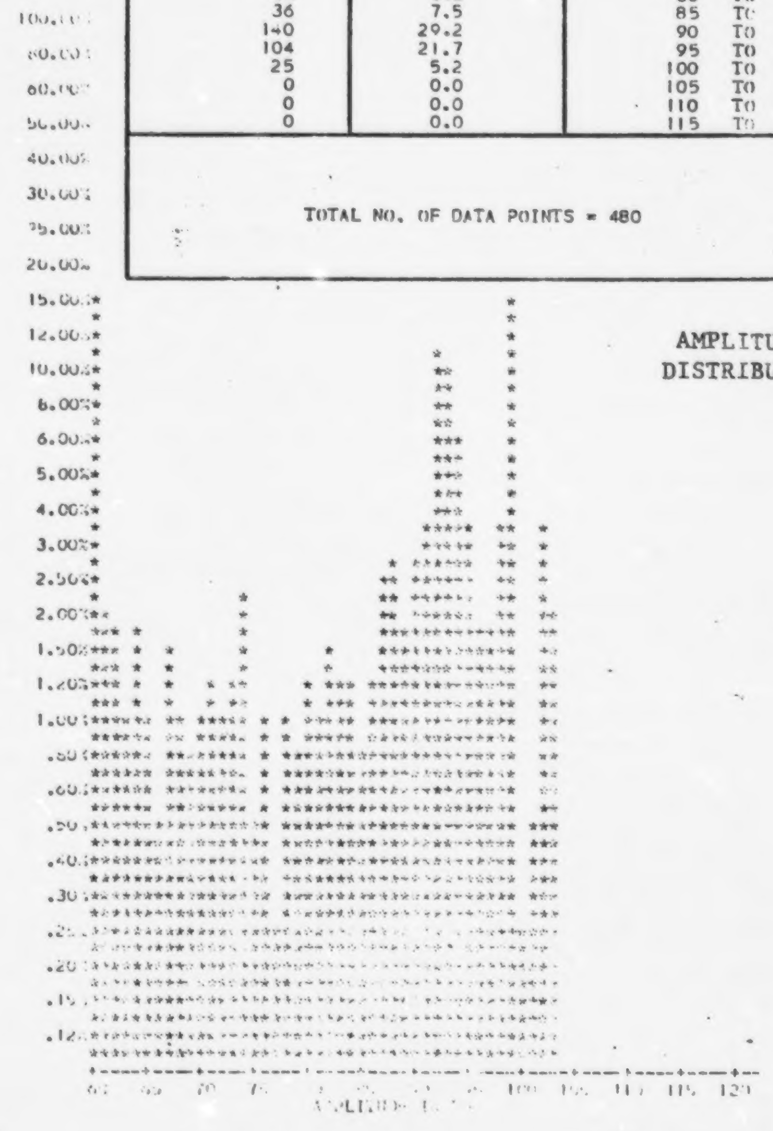
NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 D / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 [illegible]
THRESHOLD (CUTOFF) LEVEL = [illegible]
NUMBER OF COMPUTATIONS = 4
PERIOD = 1 HOURS

TIME            LOGMA                      [illegible]
HOUR     CURRENT  CUMULATIV         CURRENT  CUMULATIV
   1       91.1      91.1           [illegible]      [illegible]
   2       87.6      [illegible]    [illegible]      2[illegible].93
   3       [illegible]  [illegible] [illegible]      [illegible]
   4       94.7      [illegible]    [illegible]      [illegible]
   5       [illegible]  94.[illegible]  30.5[illegible]  11[illegible].43
   6       [illegible]  94.[illegible]  1[illegible]      1[illegible].21
   7       [illegible]  93.6        1[illegible]      [illegible]
   8       [illegible]  92.7        [illegible]       [illegible].77
[illegible]
ARITHMETIC MEAN = 84 DB
[illegible]
[illegible]
```

(92)

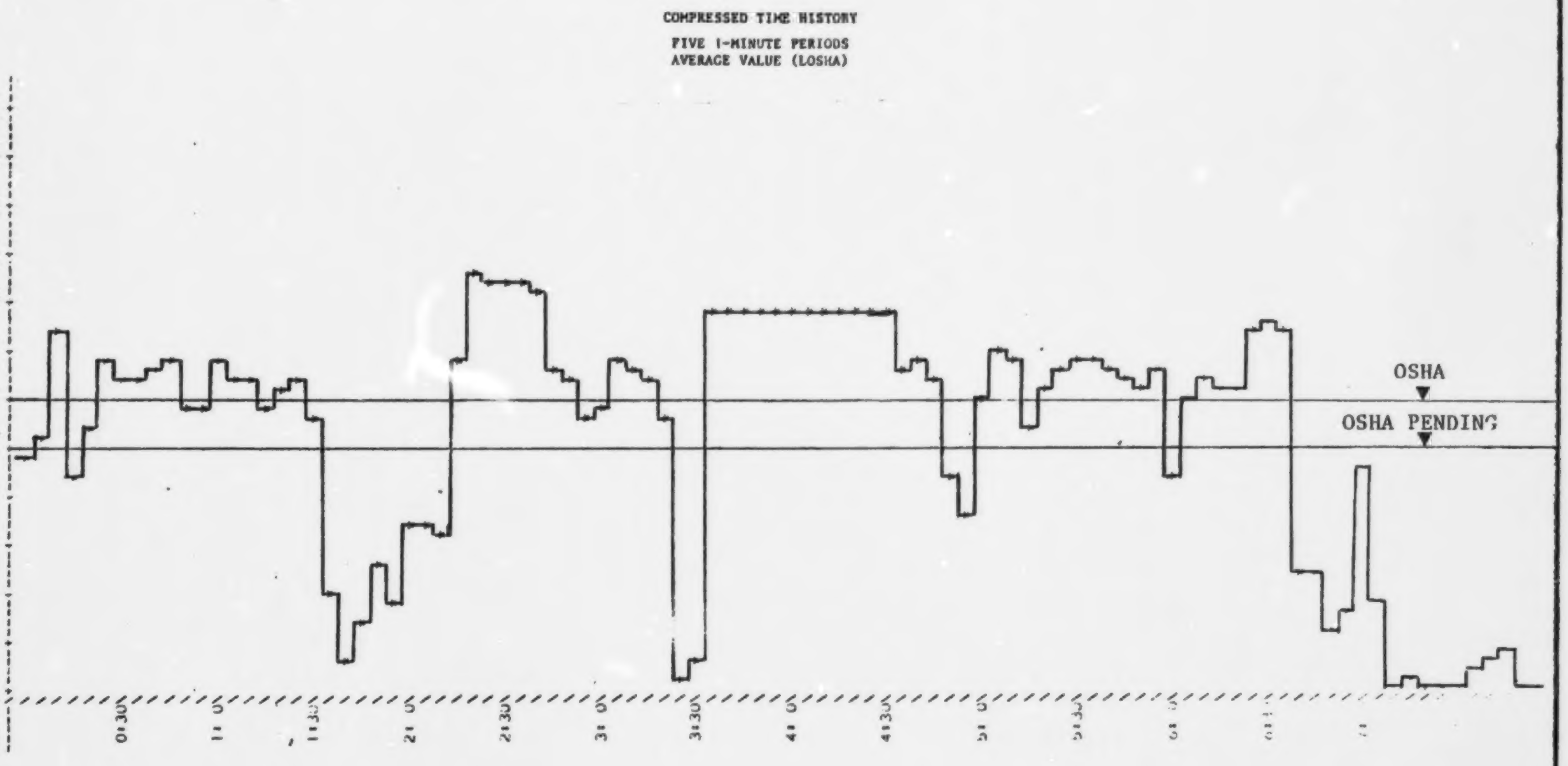
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
90	18.8	60 TO 64
19	4.0	65 TO 69
27	5.6	70 TO 74
14	2.9	75 TO 79
25	5.2	80 TO 84
36	7.5	85 TO 89
140	29.2	90 TO 94
104	21.7	95 TO 99
25	5.2	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480



AMPLITUDE DISTRIBUTION

Number of computations = 480


COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
65
70
75
80
85
90
95
100
105
110
115
120
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
6:30
7

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(93)

Mechanic Foreman

```
[illegible]
  1  20  60  1226   60   64    4     1
  10[illegible]      28479  118
  79  82  83  85  82  77  77  66  61  64  60  63  60  63  54  63
  60  60  63  60  60  61  60  [illegible]  61  74  [illegible]  88  53  72  67  60
  60  61  82  74  75  69  60  [illegible]  [illegible]  60  60  60  60  60  63  60
  61  61  63  60  60  60  60  60  [illegible]  66  60  62  61  60  60  61
  69  72  60  60  60  60  60  60  60  6[illegible]  63  60  60  80  60  60
  60  71  60  69  65  68  69  65  75  76  94  96  79  82  77  67
  62  60  60  60  60  62  66  67  70  73  82  74  60  60  63  61
  60  60  60  60  64  80  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
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  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
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  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
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  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60  60
*EOF



ENTER LOG DATE (DA/MO/YR) : 20/06/79

ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 9619

 ENTER JOB CODE (3 CHARS) : MEF




   DATA LOGGED :20 JUNE 1979          DATA ANALYZED : 23  AUG 1979
         LOGGER : DS-301/26                SITE CODE : MILL+
  SERIAL NUMBER : 1226                      JOB CODE : MEF
       BASELINE : 60 DB                    USER CODE : 9619
  DYNAMIC RANGE : 64 DB                    THRESHOLD :  80 DB
  SAMPLING RATE :  4/SEC               TOTAL SAMPLES =   28479
  TEST DURATION =    1[illegible]:39            STANDBY TIME =    7: 7: 0

           TIME HISTORY ANALYSIS

 NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
 ARE BASED ON THE FOLLOWING:
 100% DOSE = 90 DB / 8 HRS
 EXCHANGE (DOUBLING) RATE = 5 DB
 THRESHOLD (CUTOFF) LEVEL = 80 DB
   NUMBER OF COMPUTATIONS = 118
.PERIOD =  1 HOURS


 TIME           LOSHA                          DOSE
 HOUR    CURRENT   CUMULATIVE        CURRENT   CUMULATIVE
    1      73.2        73.2           1.224        1.22
    2      76.2        74.8           1.7[illegible]         [illegible].[illegible]1
 MIN. COMP. =  60 DB              MAX. COMP. =  95 DB
 ARITHMETIC MEAN =  66 DB
 STD. DEVIATION =   9 DB
 VARIANCE = 81 DB
```

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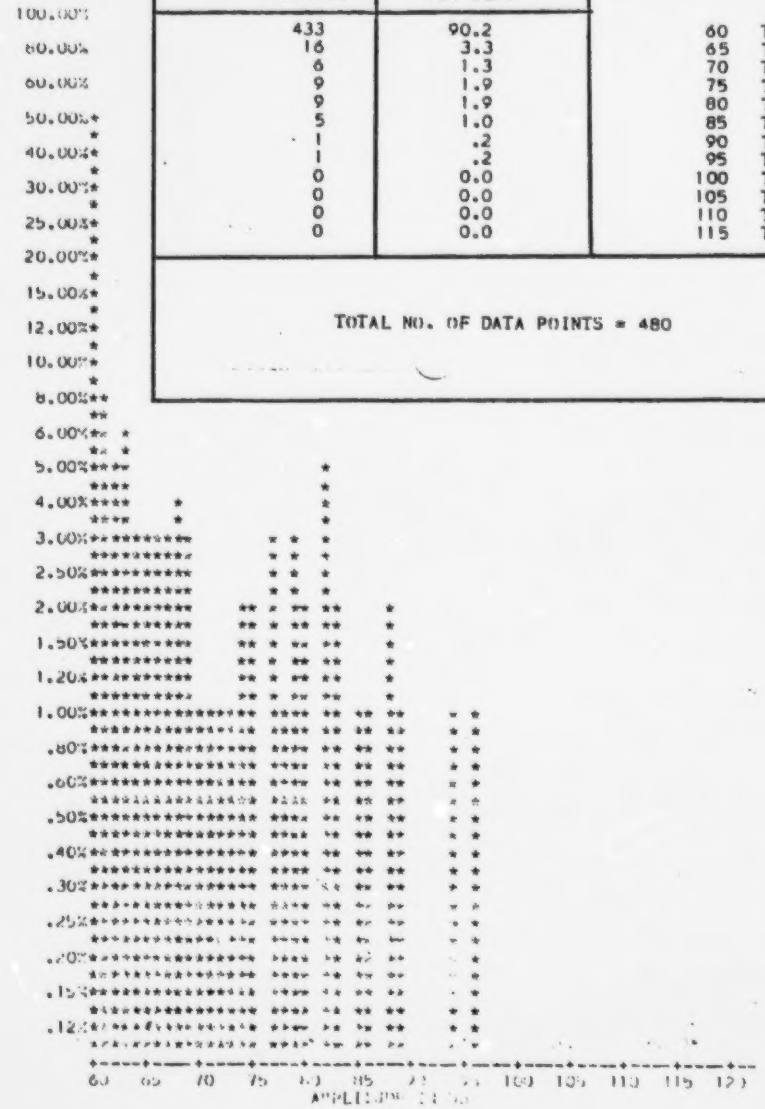
AMPLITUDE DISTRIBUTION

FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
433	90.2	60 TO 64
16	3.3	65 TO 69
6	1.3	70 TO 74
9	1.9	75 TO 79
9	1.9	80 TO 84
5	1.0	85 TO 89
1	.2	90 TO 94
1	.2	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

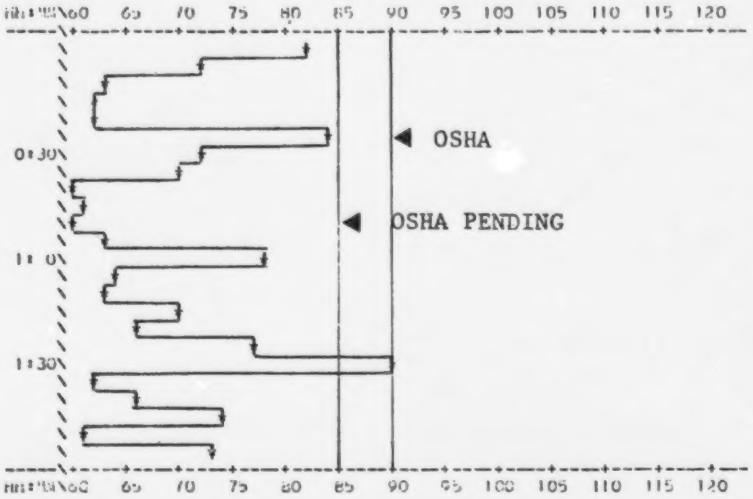


Number of computations = 118

(93)

COMPRESSED TIME HISTORY
FIVE 1 MINUTE PERIODS

AVERAGE VALUE (LOSHA)



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Metallurgist

```
PLACE TAPE IN READER THEN TYPE A "SPACE" AND A "RETURN"
  1  26  80  1225    60   64    4    1
   11941      115200   480
  [illegible] 72  72  77  61  66  64  65  60  61  60  63  65  72  68  66
  74  71  75  70  69  70  66  70  77  64  63  60  70  68  63  61
  60  62  60  60  60  66  60  66  65  60  60  62  60  64  60  60
  60  61  60  65  60  62  67  72  81  64  71  62  68  87  80  76
  75  60  65  61  62  65  67  65  64  62  61  75  84  68  73  70
  72  69  80  86  85  67  60  61  72  75  73  79  78  74  80  81
  81  81  83  79  78  74  79  76  70  63  79  67  61  60  69  62
  66  61  62  61  63  60  61  68  61  61  69  67  60  61  62  61
  61  60  60  61  71  60  78  66  61  67  75  78  79  82  80  82
  83  82  82  82  82  77  72  72  70  63  63  60  61  62  61  60
  63  60  60  60  60  60  65  61  63  60  60  60  60  60  60  60
  60  60  61  60  63  65  64  71  63  63  60  67  64  61  60  60
  82  71  60  64  60  60  60  60  60  68  68  61  60  64  67  60
  60  60  62  60  60  60  60  61  83  84  86  85  82  64  60  60
  60  61  64  60  68  70  64  62  63  60  63  69  62  60  64  65
  62  70  64  65  74  64  60  60  65  67  66  60  62  70  60  61
  70  67  60  63  69  65  63  60  65  73  61  60  60  62  62  61
  60  61  60  60  61  61  60  67  62  60  60  63  61  66  60  60
  60  60  60  60  60  60  60  60  60  60  60  60  61  60  60  63
  63  60  61  64  65  60  63  68  65  60  63  66  63  70  77  60
  61  60  60  65  68  61  61  63  60  60  60  60  61  66  60  65
  67  61  65  61  61  60  60  60  60  64  60  62  64  60  60  60
  60  61  60  61  79  63  64  62  61  64  67  65  64  65  64  60
  63  60  62  61  61  62  62  60  62  60  62  61  60  60  60  60
  60  63  61  68  60  60  60  60  60  60  60  60  60  60  60  60
  60  61  60  60  60  60  60  60  60  60  60  60  60  62  62  60
  62  61  60  61  60  60  63  64  61  64  68  62  61  61  60  60
  60  60  60  61  64  60  60  60  60  60  60  61  63  60  60  60
  60  61  61  60  60  60  66  65  60  62  60  60  64  60  60  60
  60  60  62  60  63  60  60  60  60  60  60  60  60  60  60  60
%EOF


ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : MILL+
ENTER USER CODE (4 CHARS) : 9149
 ENTER JOB CODE (3 CHARS) : MGT

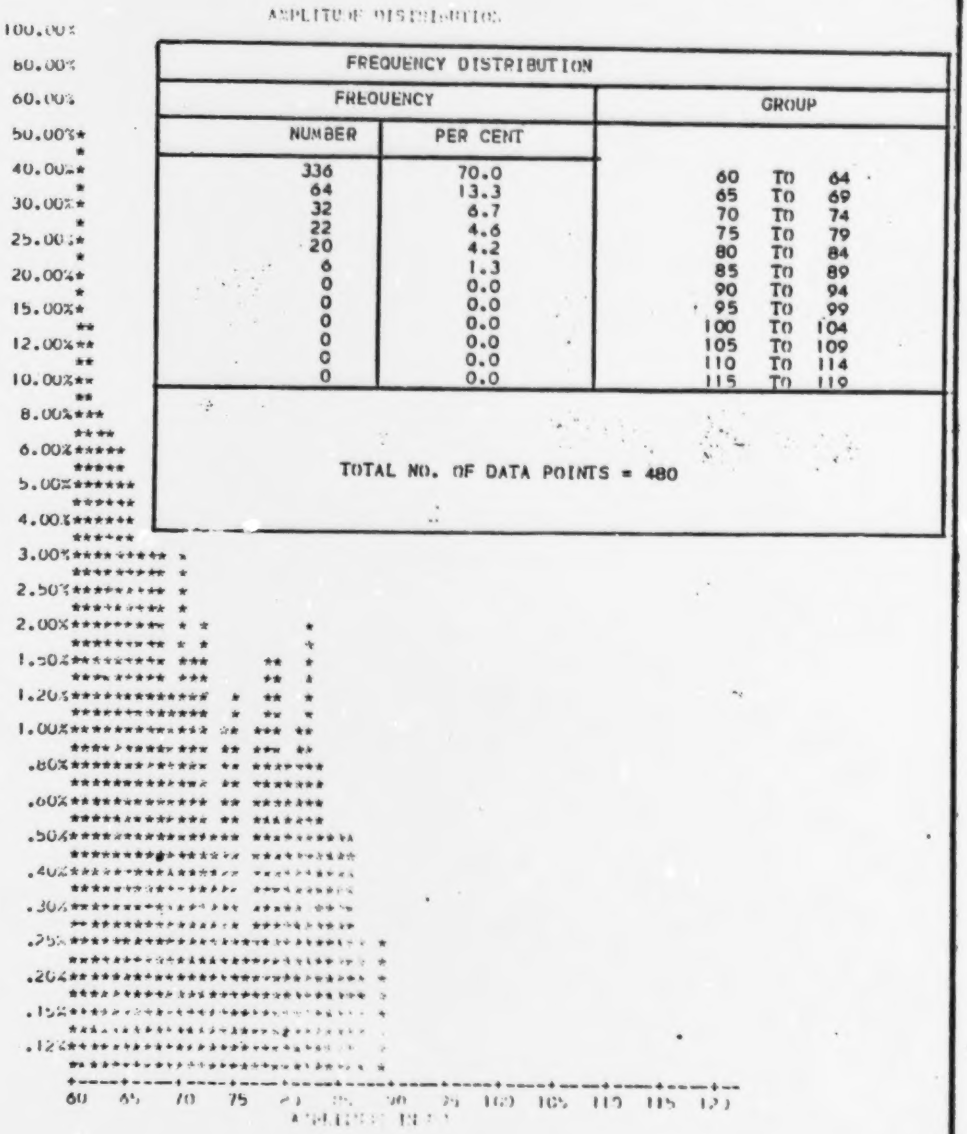

   DATA LOGGED :22 JUNE 1979              DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : MILL+
 SERIAL NUMBER : 1225                           JOB CODE : MGT
      BASELINE : 60 DB                         USER CODE : 9149
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =    8: 0: 0                 STANDBY TIME =   0:49:45

         TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES


TIME            LOGHA                     DOSE
HOUR     CURRENT  CUMULATIVE      CURRENT  CUMULATIV
   1        67.6        67.6         .564         .56
   2        75.8        72.8        1.735        2.30
   3        71.6        72.4          .9[illegible]         3.27
   4        70.4        71.9         .823        4.09
   5        63.7        70.9         .325        4.42
   6        64.2        70.1         .351        4.77
   7        61.4        69.4         .2[illegible]        [illegible]
   8        61.2        68.7         .231        [illegible]
MIN. COMP. =  60 DB               MAX. COMP. = [illegible] DB
ARITHMETIC MEAN = [illegible] DB
STD. DEVIATION =   [illegible]
VARIANCE = [illegible]
```

(94)

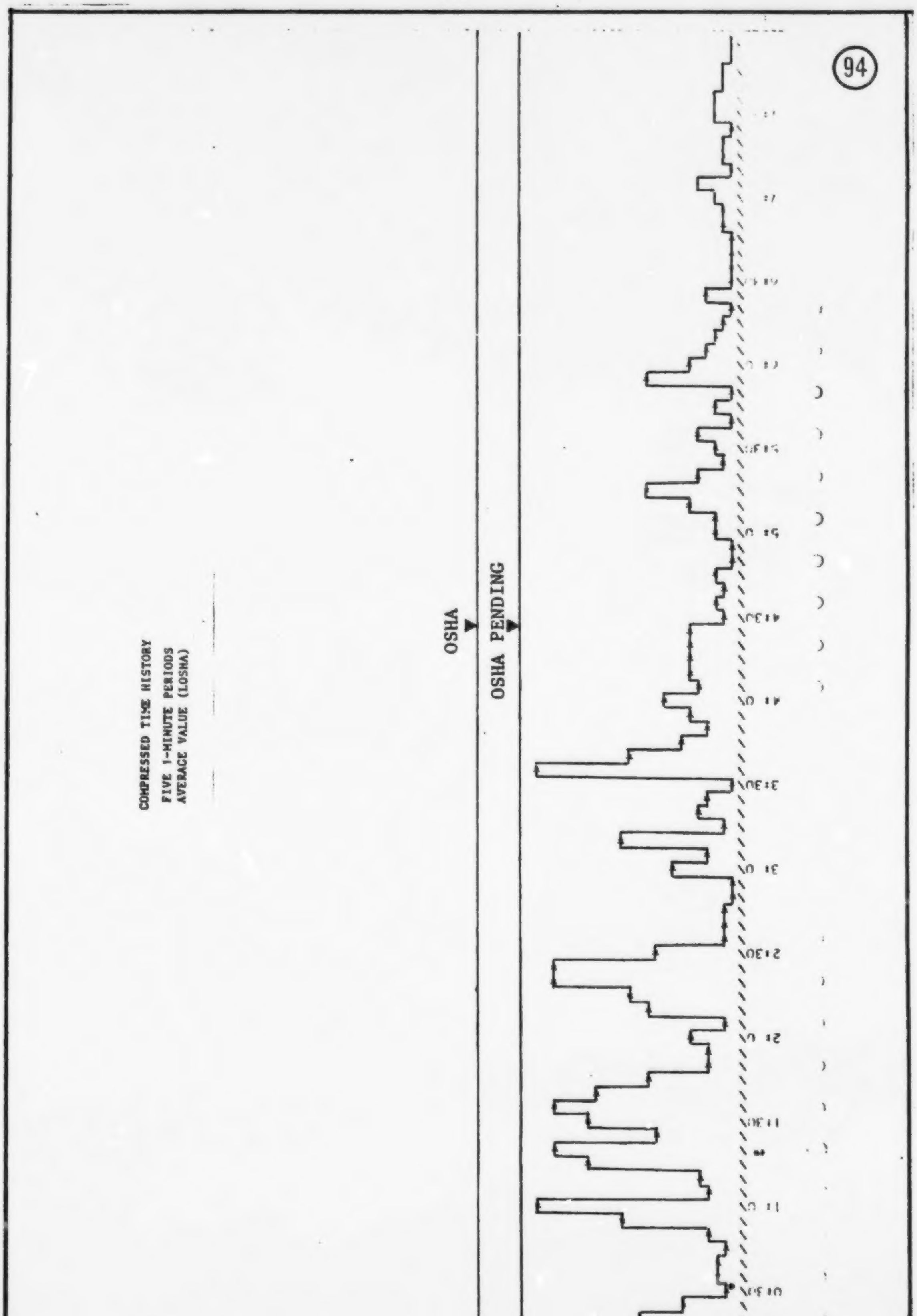


FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
336	70.0	60 TO 64
64	13.3	65 TO 69
32	6.7	70 TO 74
22	4.6	75 TO 79
20	4.2	80 TO 84
6	1.3	85 TO 89
0	0.0	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

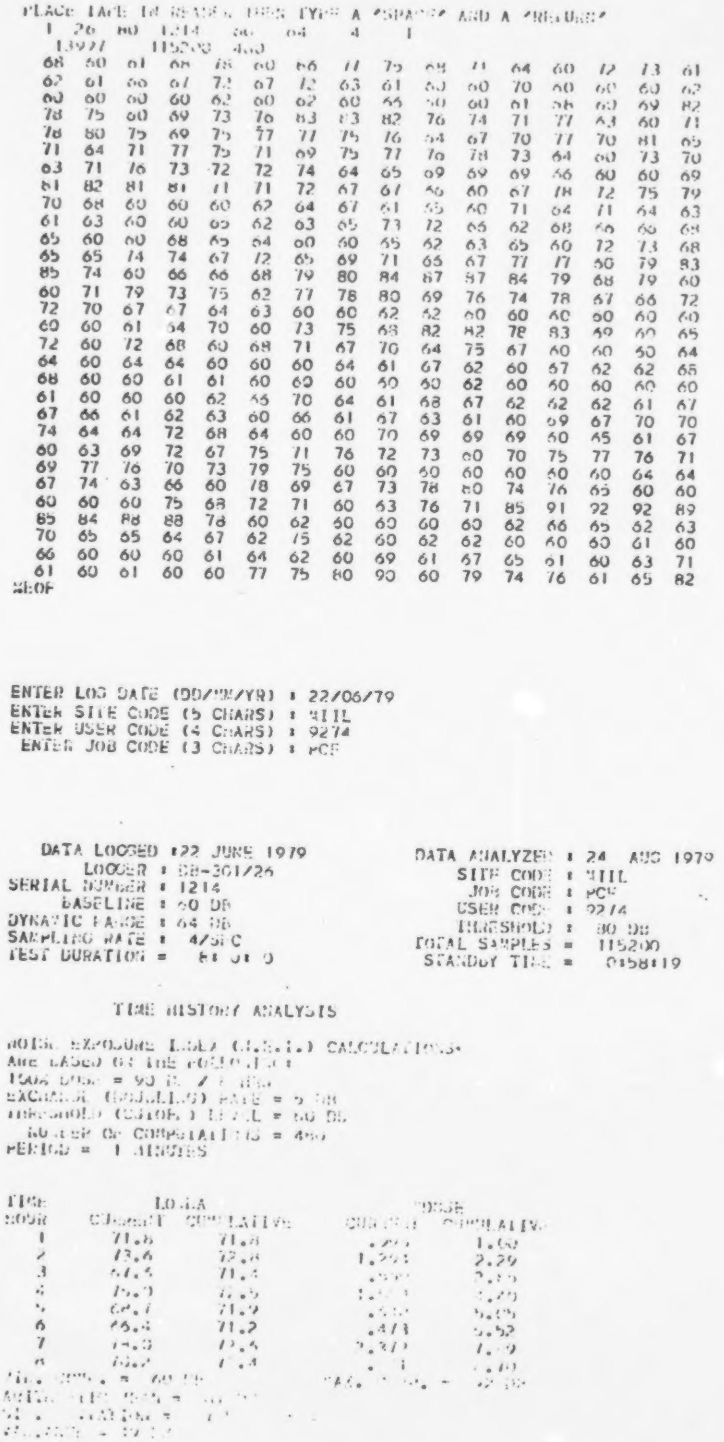
TOTAL NO. OF DATA POINTS = 480

Number of computations = 480


94
COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)
OSHA
OSHA PENDING
0:30
1:0
1:30
2:0
2:30
3:0
3:30
4:0
4:30
5:0
5:30
6:0
60
65
70
75
80
85
90
95
100
105
110
115
120

(95)

Engineer



```
PLACE TAPE IN READER, THEN TYPE A 'SPACE' AND A 'RETURN'
  1  26  80  1214   60   64    4    1
  13977     115200  480
  68  60  61  68  78  60  66  77  75  68  71  64  60  72  73  61
  62  61  66  67  72  67  72  63  61  60  60  70  60  60  60  62
  60  60  60  60  62  60  62  60  66  60  60  61  68  60  69  82
  78  75  60  69  73  76  83  83  82  76  74  71  77  63  60  71
  78  80  75  69  75  77  77  75  76  64  67  70  77  70  81  65
  71  64  71  77  75  71  69  75  77  76  78  73  64  60  73  70
  63  71  76  73  72  72  74  64  65  69  69  69  66  60  60  69
  61  82  81  81  71  71  72  67  67  66  60  67  78  72  75  79
  70  68  60  60  60  62  64  67  61  65  60  71  64  71  64  63
  61  63  60  60  65  62  63  65  73  72  66  62  68  66  66  68
  65  60  60  68  65  64  60  60  65  62  63  65  60  72  73  68
  65  65  74  74  67  72  65  69  71  65  67  77  77  60  79  83
  85  74  60  66  66  68  79  80  84  87  87  84  79  68  79  60
  60  71  79  73  75  62  77  78  80  69  76  74  78  67  66  72
  72  70  67  67  64  63  60  60  62  62  60  60  60  60  60  60
  60  60  61  64  70  60  73  75  68  82  82  78  83  69  60  65
  72  60  72  68  60  68  71  67  70  64  75  67  60  60  60  64
  64  60  64  64  60  60  60  64  61  67  62  60  67  62  62  65
  68  60  60  61  61  60  60  60  60  60  62  60  60  60  60  60
  61  60  60  60  62  66  70  64  61  68  67  62  62  62  61  67
  67  66  61  62  63  60  66  61  67  63  61  60  69  67  70  70
  74  64  64  72  68  64  60  60  70  69  69  69  60  65  61  67
  60  63  69  72  67  75  71  76  72  73  60  70  75  77  76  71
  69  77  76  70  73  79  75  60  60  60  60  60  60  60  64  64
  67  74  63  66  60  78  69  67  73  78  80  74  76  65  60  60
  60  60  60  75  68  72  71  60  63  76  71  85  91  92  92  89
  85  84  88  88  78  60  62  60  60  60  60  62  66  65  62  63
  70  65  65  64  67  62  75  62  60  62  62  60  60  60  61  60
  66  60  60  60  61  64  62  60  69  61  67  65  61  60  63  71
  61  60  61  60  60  77  75  80  90  60  79  74  76  61  65  82
%EOF


ENTER LOG DATE (DD/MM/YR) : 22/06/79
ENTER SITE CODE (5 CHARS) : [illegible]IIL
ENTER USER CODE (4 CHARS) : 9274
 ENTER JOB CODE (3 CHARS) : PCF

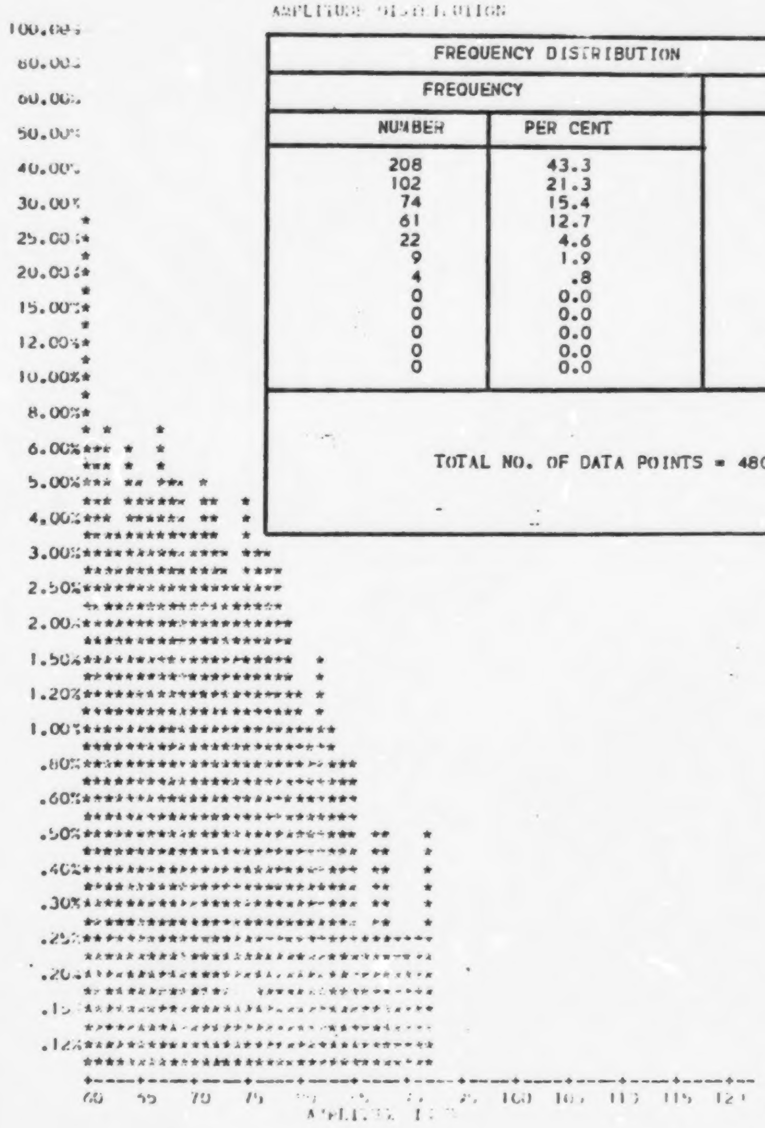

   DATA LOGGED :22 JUNE 1979               DATA ANALYZED : 24  AUG 1979
        LOGGER : DB-301/26                     SITE CODE : [illegible]IIL
 SERIAL NUMBER : 1214                           JOB CODE : PCF
      BASELINE : 60 DB                         USER CODE : 9274
 DYNAMIC RANGE : 64 DB                         THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                    TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0                  STANDBY TIME =   0:58:19

          TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 60 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME           LOSHA                        DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT   CUMULATIVE
   1       71.8      71.8            [illegible]       1.[illegible]
   2       73.6      72.8          1.29[illegible]       2.29
   3       67.5      71.4            [illegible]       2.[illegible]
   4       75.9      72.5          1.[illegible]       [illegible].20
   5       68.7      71.9            [illegible]       5.05
   6       66.4      71.2           .473       5.52
   7       74.3      72.5          2.37[illegible]       7.[illegible]9
   8       [illegible]      72.4            [illegible]       [illegible]
MIN. LEVEL =  60 DB               MAX. LEVEL =  92 DB
[illegible]
[illegible]
[illegible]
```

(95)



FREQUENCY DISTRIBUTION

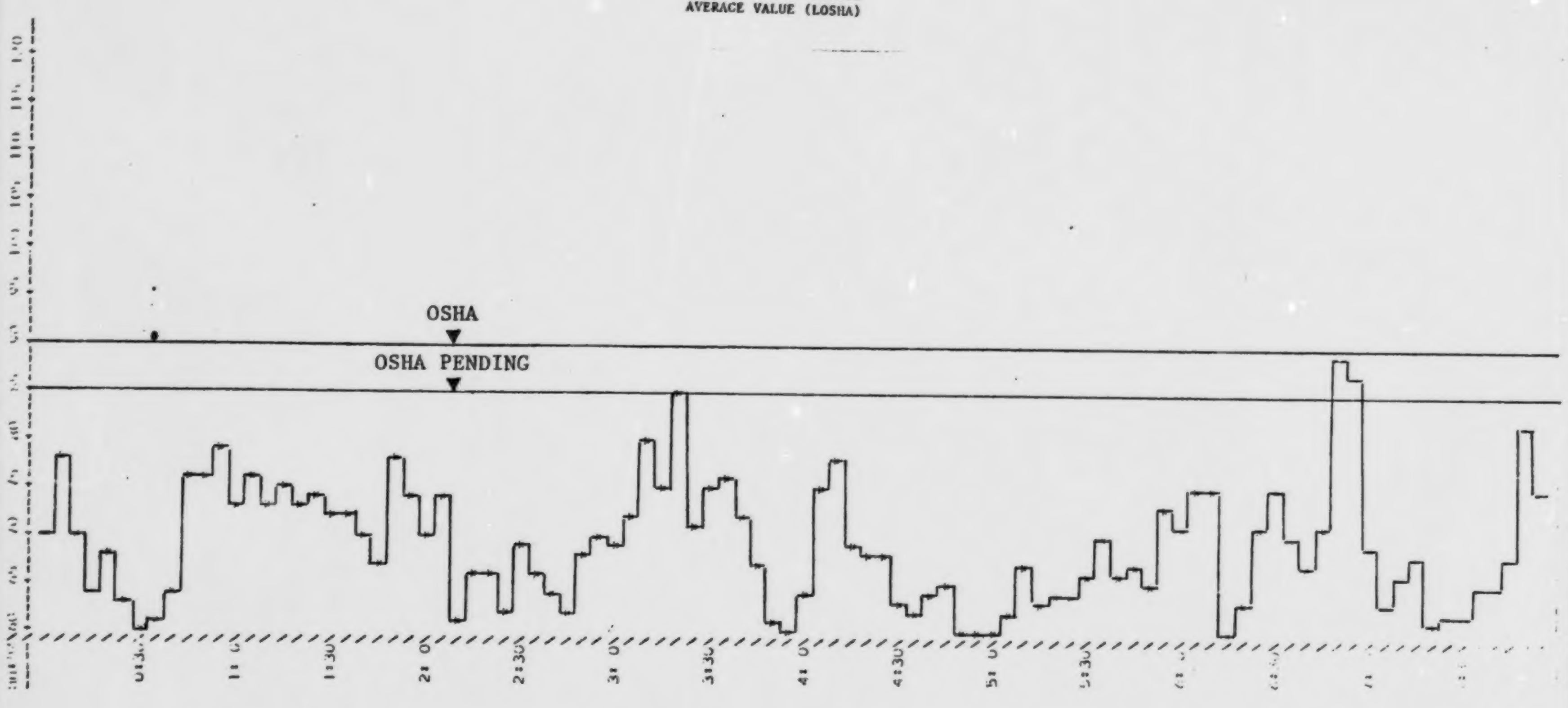
FREQUENCY		GROUP
NUMBER	PER CENT	
208	43.3	60 TO 64
102	21.3	65 TO 69
74	15.4	70 TO 74
61	12.7	75 TO 79
22	4.6	80 TO 84
9	1.9	85 TO 89
4	.8	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

Number of computations = 480

95

COMPRESSED TIME HISTORY
FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



(96)

Stationary Engineer (Boiler Plant)

```
PLACE TAPE IN READER AND TYPE A "SPACE" AND A "RETURN"

  1   20  80  1219    60    64     4     1
     120     115200   480
  83  81  81  72  85  87  87  85  75  84  84  86  79  54  79  87
  68  79  67  61  65  60  60  77  82  60  62  60  95  80  60  63
  64  77  77  60  60  76  80  73  84  84  81  81  82  82  81  81
  61  80  77  74  80  80  80  80  70  80  80  80  81  77  80  80
  80  86  80  80  80  80  82  81  59  80  62  80  81  80  80  80
  82  81  81  82  78  74  82  80  [illegible]  81  83  80  80  81  84  83
  64  84  61  82  84  81  78  82  82  85  64  61  61  64  60  60
  62  61  60  60  60  60  60  60  60  60  60  60  64  60  60  61
  66  62  60  60  60  60  60  60  67  61  62  77  64  60  69  63
  60  64  67  60  60  67  60  60  66  60  62  60  65  60  60  62
  64  62  69  87  85  85  84  86  84  83  84  84  82  82  78  83
  84  84  83  83  86  84  60  61  60  60  60  75  85  84  84  90
  66  85  81  67  60  77  85  86  85  94  96  89  84  83  84  87
  84  82  85  85  85  84  83  84  83  84  83  82  81  81  82  85
  86  89  86  93  93  97  95  91  93  95  93  95  95  84  85  90
  86  85  91  84  87  88  85  86  93  94  95  95  89  95  94  93
  92  91  87  89  92  93  93  92  90  94  92  94  94  94  92  95
  89  90  92  93  91  94  94  91  92  93  88  94  95  93  94  89
  89  94  94  89  87  87  86  82  82  82  82  82  83  82  81  81
  85  82  82  82  80  84  85  85  85  85  85  83  85  84  85  85
  84  84  84  85  87  87  90  82  83  84  84  84  85  84  82  83
  84  82  82  83  83  83  83  83  80  81  82  81  82  82  82  80
  84  82  85  85  86  84  85  86  85  85  83  84  84  84  84  83
  76  82  81  81  80  82  81  81  81  81  81  81  81  81  81  80
  86  84  83  80  90  84  80  77  77  80  76  82  85  85  78  80
  79  80  80  82  82  79  81  80  81  81  81  81  82  82  82  90
  81  82  82  81  81  81  81  81  81  81  81  81  81  83  85  80
  81  81  81  81  83  74  81  86  81  81  81  82  82  82  82  82
  83  84  79  77  82  84  72  73  60  60  60  60  60  60  60  61
  60  60  61  60  60  60  60  60  70  79  80  80  80  84  64  60
#EOF


ENTER LOG DATE (DD/MM/YR) : 06/07/79
ENTER SITE CODE (5 CHARS) : BOIPL
ENTER USER CODE (4 CHARS) : 2010
 ENTER JOB CODE (3 CHARS) : 357



   DATA LOGGED : 6 JULY 1979            DATA ANALYZED : 29  AUG 1979
        LOGGER : DB-301/26                  SITE CODE : BOIPL
 SERIAL NUMBER : 1219                        JOB CODE : 357
      BASELINE : 60 DB                      USER CODE : 2010
 DYNAMIC RANGE : 54 DB                      THRESHOLD :  80 DB
 SAMPLING RATE :  4/SEC                 TOTAL SAMPLES =  115200
 TEST DURATION =   8: 0: 0               STANDBY TIME =   0: 0:30

        TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
 NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME          LOSHA                       %DOSE
HOUR    CURRENT  CUMULATIVE         CURRENT   CUMULATIVE
   1      79.0      79.0             3.020       3.02
   2      76.5      77.3             2.657       5.71
   3      75.5      76.3             1.737       7.44
   4      87.5      81.9             8.845      16.28
   5      91.3      85.0            14.950      31.22
   6      83.0      84.8             5.270      36.49
   7      81.7      84.5             4.075      40.56
   8      79.5      84.2             3.651      44.21
MIN. CONC. =  60 DB                MAX. CONC. =  97 DB
ARITHMETIC MEAN =  79 DB
STD. DEVIATION =  11 DB
VARIANCE = [illegible]
```

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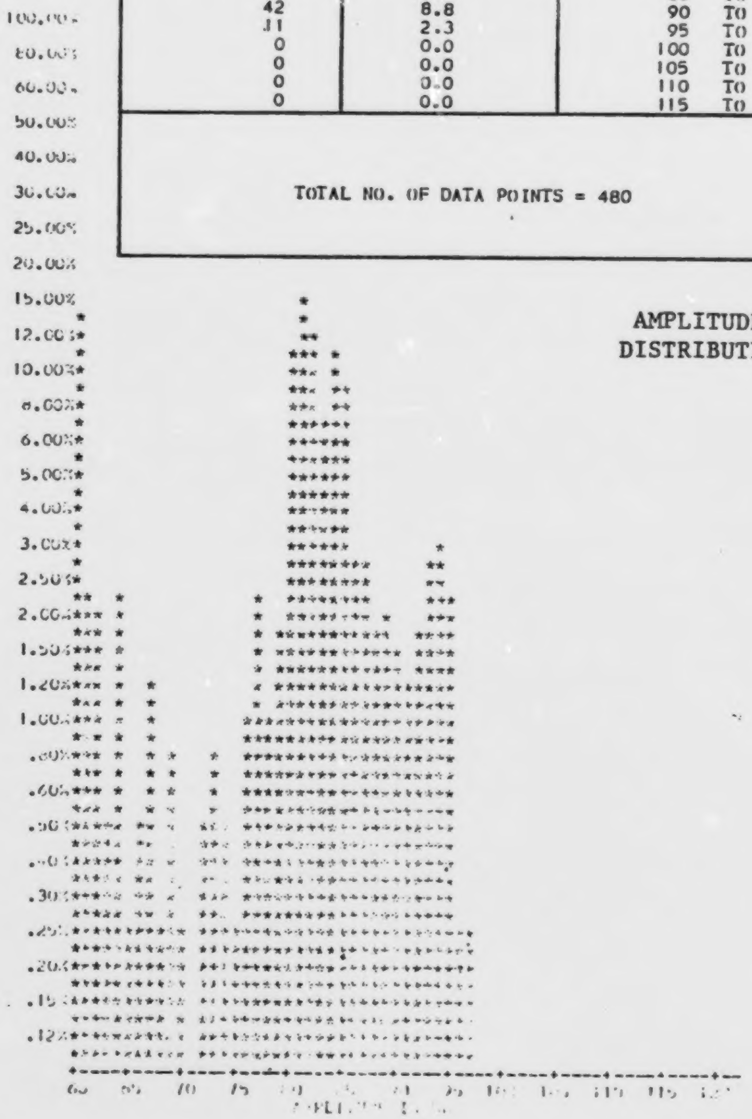
FREQUENCY DISTRIBUTION		
FREQUENCY		GROUP
NUMBER	PER CENT	
87	18.1	60 TO 64
12	2.5	65 TO 69
8	1.7	70 TO 74
25	5.2	75 TO 79
224	46.7	80 TO 84
71	14.8	85 TO 89
42	8.8	90 TO 94
11	2.3	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

TOTAL NO. OF DATA POINTS = 480

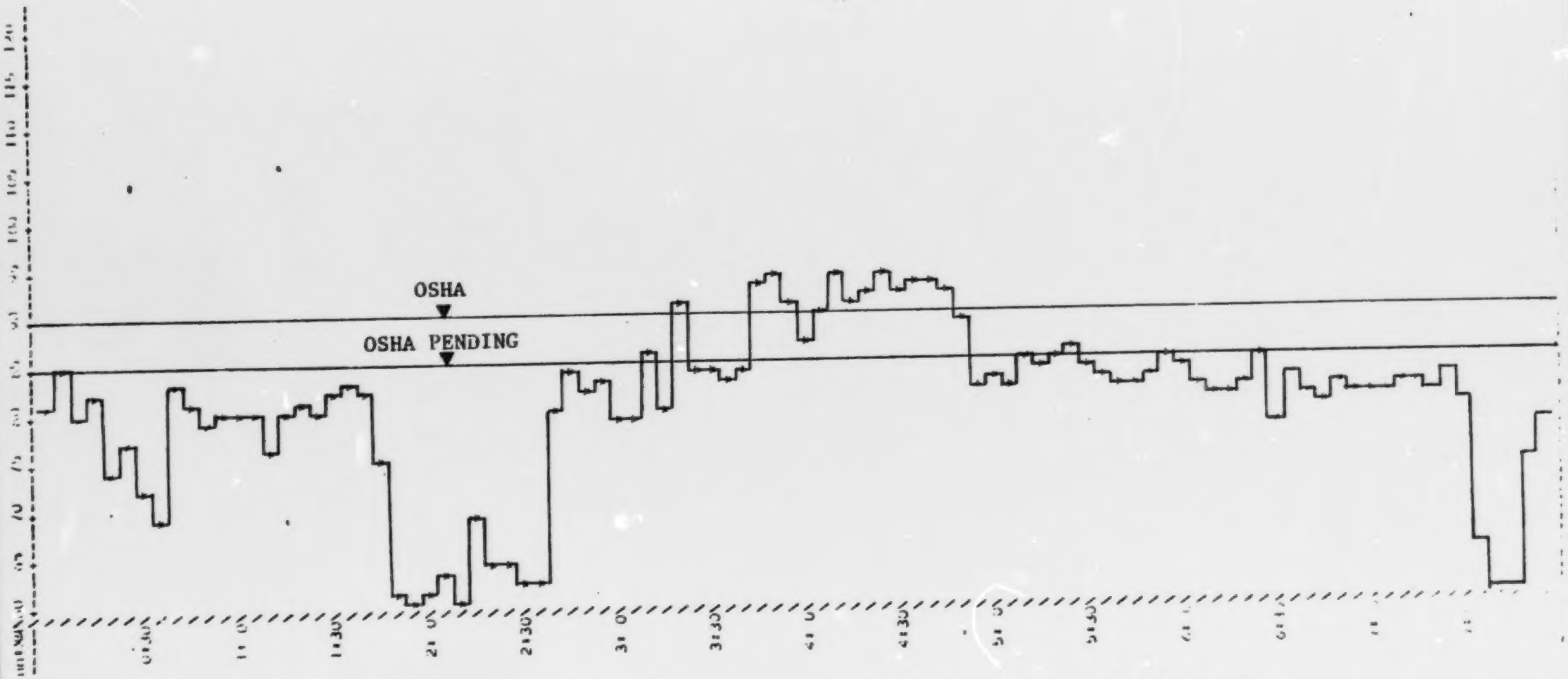


AMPLITUDE
DISTRIBUTION

Number of computations = 480

COMPRESSED TIME HISTORY

FIVE 1-MINUTE PERIODS
AVERAGE VALUE (LOSHA)



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Stationary Engineer (Boiler Plant)

```
PEAK [illegible]
  1  25  60  1212  60  64  [illegible]  1
      22     115200  [illegible]
  83  87  86  86  84  88  86  87  86  86  87  86  [illegible]  88  84  86
  87  85  76  60  74  60  60  60  50  50  73  76  60  60  60  60
  70  71  92 104 101  92  94 102 111  88  86  88  82  80  91  94
  77  74  70  65  64  74  67  61  60  50  64  72  84  76  97  95
  96  96  96  95  90  60  67  91  89  85  60  60  73  86  79  81
  81  81  81  81  81  81  81  81  81  81  81  81  82  81  81  82
  82  82  82  82  81  81  82  81  75  70  84  92  98  95  83  79
  81  81  81  81  81  81  81  81  81  81  81  81  81  81  81  81
  82  80  81  82  60  60  60  60  92  93  93  92  92  93  94  94
  95  94  89  92  95  92  94  95  95  94  96  94  93  93  84  90
  62  82  82  86  85  79  86  85  57  50  53  60  53  50  63  62
  61  60  77  86  80  72  85  65  60  60  60  60  60  60  60  60
  60  60  60  50  60  67  66  89  94  37  37  91  96 101  91  94
  96  92  88  87  82  61  76  66  61  62  60  60  62  62  63  60
  60  60  60  60  60  60  60  76  77  81  82  83  82  82  81  80
  80  80  63  81  82  82  84  88  76  68  63  64  63  60  62  60
  61  60  62  60  60  60  60  60  50  61  60  61  60  60  61  60
  60  60  60  60  60  60  62  90  93  97  84  71  81  83  84  83
  84  83  83  83  83  82  81  85  83  83  80  81  77  83  82  83
  83  82  80  80  82  82  80  65  77  73  63  74  78  86  87  86
  85  86  84  85  85  85  86  86  90  87  85  73  60  60  69  76
  76  73  72  77  68  68  62  61  77  74  70  79  74  81  84  81
  81  76  63  60  79  62  65  63  50  77  76  72  58  69  57  67
  62  71  65  66  70  66  75  81  34  31  31  81  82  81  70  76
  78  60  74  60  79  79  61  61  60  55  77  76  67  51  64  60
  60  61  60  60  76  82  61  81  82  82  91  80  80  80  79  91
  81  80  60  80  80  80  79  78  77  79  79  80  80  80  80  82
  92  81  82  89  84  82  82  84  84  83  83  81  87  86  75  74
  84  90  93  89  84  87  86  79  70  74  60  60  60  60  60  62
  60  60  60  60  83  80  60  60  60  60  60  60  60  60  60  60
%EOF



ENTER LOG DATE (DD/MM/YR) : 06/07/79
ENTER SITE CODE (5 CHARS) : BOLFL
ENTER USER CODE (4 CHARS) : 0923
 ENTER JOB CODE (3 CHARS) : 360



    DATA LOGGED : 6 JULY 1979           DATA ANALYZED : 29  AUG 1979
         LOGGER : DS-301/26                 SITE CODE : BOLFL
  SERIAL NUMBER : 1212                       JOB CODE : 360
       BASELINE : 60 DB                     USER CODE : 0923
  DYNAMIC RANGE : 64 DB                     THRESHOLD : 30 DB
  SAMPLING RATE : 4/SEC                 TOTAL SAMPLES =  115200
  TEST DURATION =   8: 0: 0              STANDBY TIME =    0: 0:23

             TIME HISTORY ANALYSIS

NOISE EXPOSURE INDEX (N.E.I.) CALCULATIONS
ARE BASED ON THE FOLLOWING:
100% DOSE = 90 DB / 8 HRS
EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
  NUMBER OF COMPUTATIONS = 480
PERIOD =  1 MINUTES

TIME            LOSHA                      %DOSE
HOUR     CURRENT  CUMULATIVE       CURRENT    CUMULATIVE
   1       87.1      87.1           11.012       11.01
   2       85.7      86.0            7.463       18.47
   3       87.9      87.2            [illegible] [illegible]
   4       83.6      87.1            5.143       33.35
   5       80.3      85.1            3.243       36.59
   6       80.3      85.4            3.313       39.91
   7       76.5      83.7            1.299       41.21
   8       81.1      83.4            [illegible] [illegible]
MIN. COMP. =  60 DB             MAX. COMP. = 105 DB
ARITHMETIC MEAN =  77 DB
STD. DEVIATION =  12 DB
VARIANCE =144 DB
```

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FREQUENCY DISTRIBUTION

FREQUENCY		GROUP
NUMBER	PER CENT	
127	26.5	60 TO 64
25	5.2	65 TO 69
26	5.4	70 TO 74
39	8.1	75 TO 79
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66	13.8	85 TO 89
34	7.1	90 TO 94
17	3.5	95 TO 99
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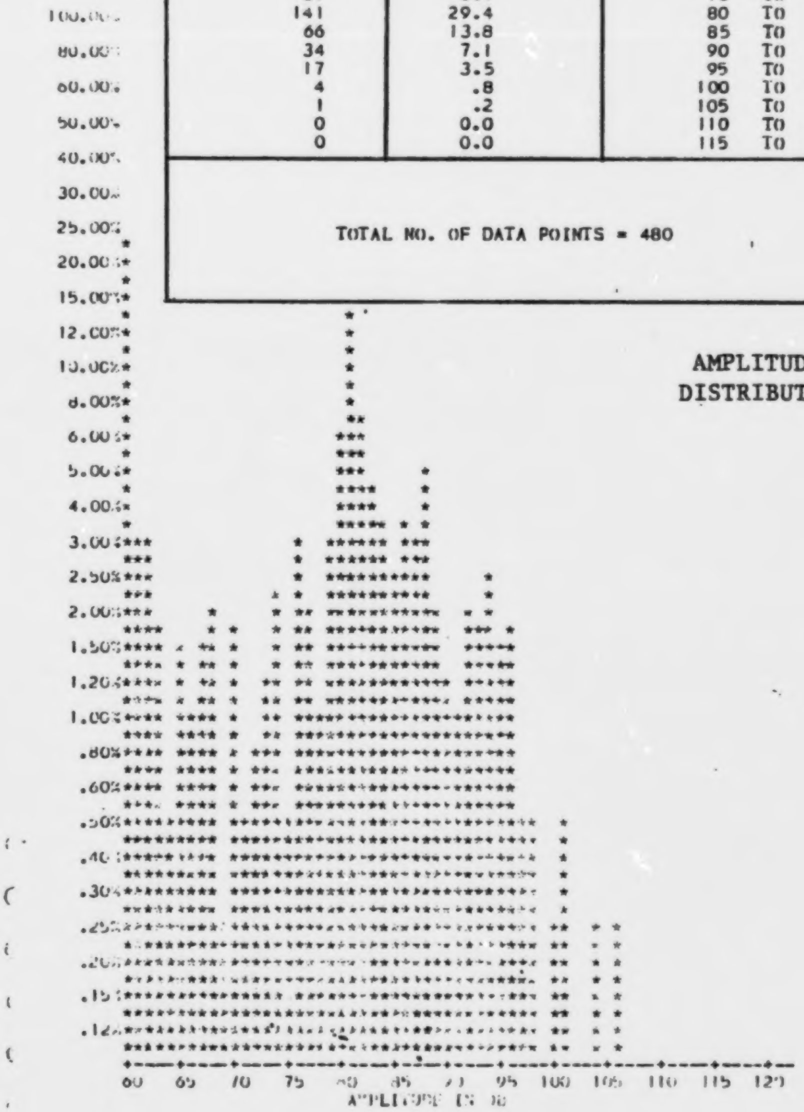

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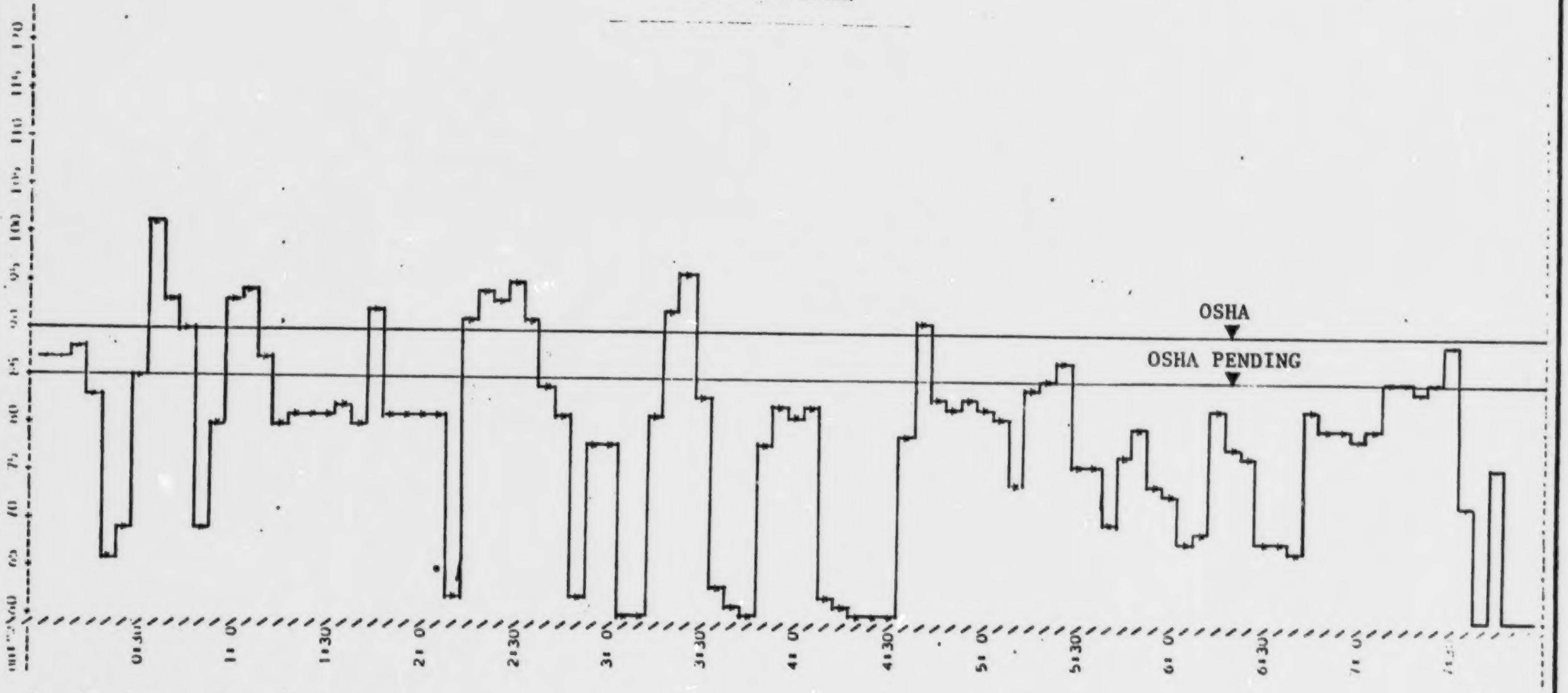
AVERAGE VALUE (LOSHA)



(98)

Stationary Engineer (Boiler Plant)

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ENTER USER CODE (4 CHARS) : 0105
 ENTER JOB CODE (3 CHARS) : 359



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  SERIAL NUMBER : 1226                      JOB CODE : 359
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  TEST DURATION =    4:45:30            STANDBY TIME =    3:49:56


            TIME HISTORY ANALYSIS

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ARE BASED ON THE FOLLOWING:
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EXCHANGE (DOUBLING) RATE = 5 DB
THRESHOLD (CUTOFF) LEVEL = 80 DB
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PERIOD =  1 MINUTES


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   2       81.5       82.4        3.[illegible]7      [illegible]
   3       81.6       82.1        3.[illegible]     12.[illegible]
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(98)

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159	33.1	80 TO 84
40	8.3	85 TO 89
1	.2	90 TO 94
0	0.0	95 TO 99
0	0.0	100 TO 104
0	0.0	105 TO 109
0	0.0	110 TO 114
0	0.0	115 TO 119

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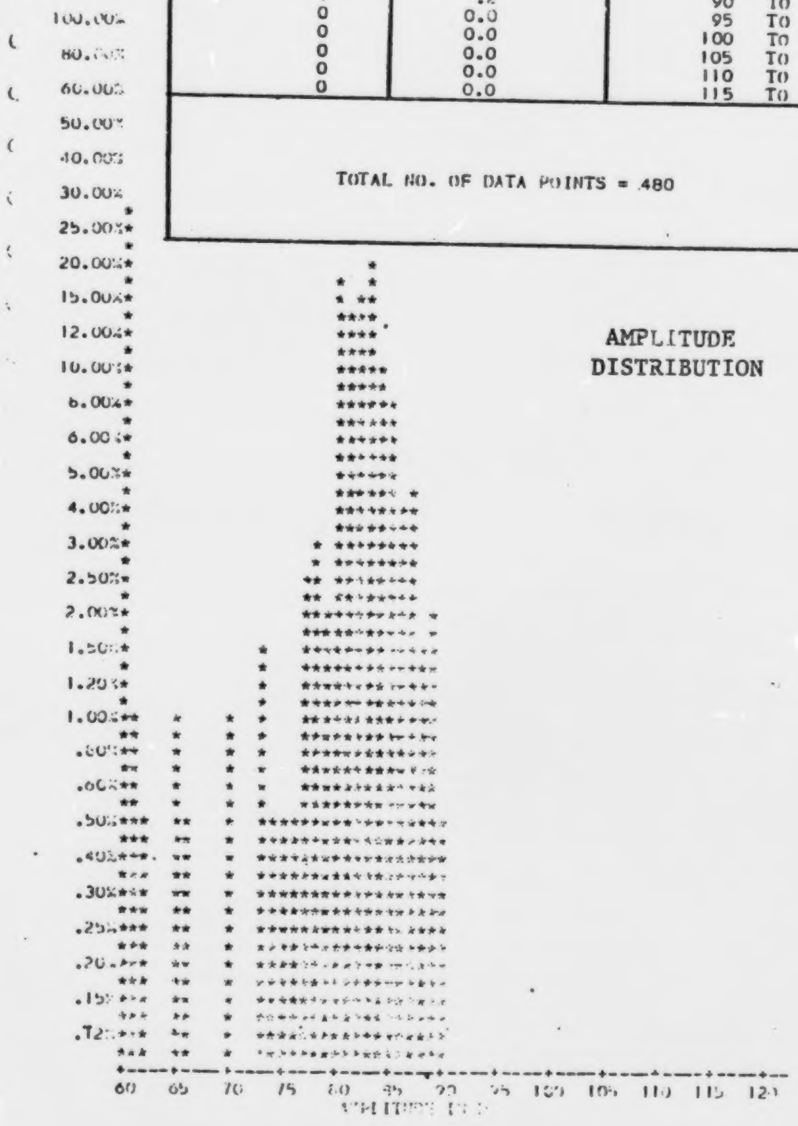

AMPLITUDE
DISTRIBUTION

Number of computations = 285

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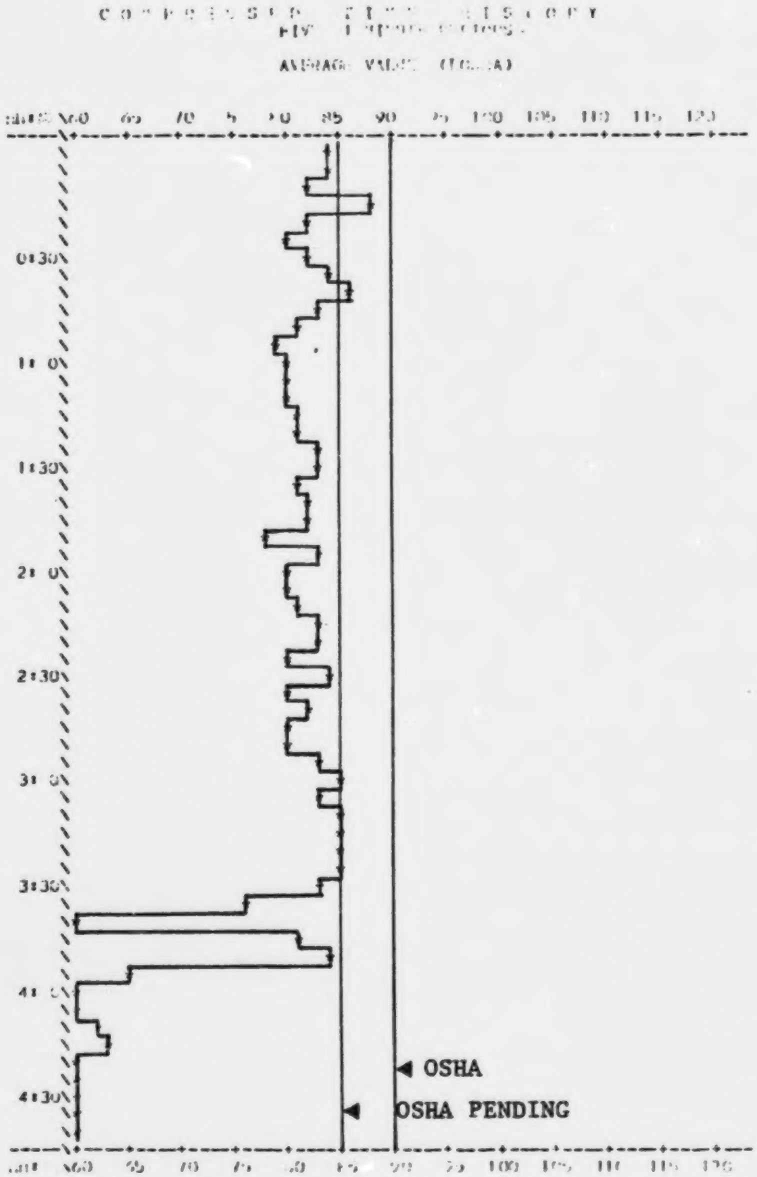
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100
105
110
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120
0:30
1: 0
1:30
2: 0
2:30
3: 0
3:30
4: 0
4:30
◀ OSHA
◀ OSHA PENDING

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VOL. 4 B Report 7

83-45 M. U. Savich

Noise measurement at

shafts No. 1 and No. 2 at

Denison Mines Ltd. Elliot Lake

1983

NOISE MEASUREMENT AT SHAFTS NO. 1 AND NO. 2 AT DENISON MINES LTD. ELLIOT LAKE

by

M.U. Savich*

ABSTRACT

Noise measurements were taken during the reconstruction period at Shafts No. 1 and No. 2 using a Statistical Distribution Analyzer, B and K Type 4420.

Even though the noise measured was below 90 dBA in all operator's cabs, greater efforts must be made to decrease noise, particularly at the hoist for men at shafts No. 1 and No. 2. It would be desirable to attain noise levels below 70 dBA. A reduction of 10 to 13 dBA was obtained, however, problems remain to be solved. Recommendations on how to deal with noise in cabs are included.

---

* Research Scientist, Elliot Lake Laboratory, CANMET, Energy, Mines and Resources Canada, Elliot Lake, Ontario.

MESURE DU NIVEAU DE BRUIT AUX PUITS NO. 1 ET NO. 2 À LA MINE DENISON MINES LTD. À ELLIOT LAKE

par

M.U. Savich*

RÉSUMÉ

On a effectué des mesures du niveau de bruit lors de la période de reconstruction aux puits no. 1 et no. 2 en utilisant un analyseur statistique du niveau de bruit de type 4426 B et K.

Bien que toutes les mesures prises dans les cabines des opérateurs se situaient au dessous de 90 dBA, on doit faire davantage d'efforts pour diminuer le niveau de bruit, en particulier au treuil d'extraction des puits no. 1 et no. 2. Il serait désirable d'abaisser le niveau de bruit au dessous de 70 dBA. On a réussi à réduire le niveau de 10 à 13 dBA, quoiqu'il reste encore des problèmes à résoudre. On a aussi inclus des recommandations au sujet de bruit dans les cabines des machinistes.

---

*Chércheur scientifique, Laboratoire d'Elliot Lake, CANMET, Energie, Mines et Ressources Canada, Elliot Lake, Ontario

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INTRODUCTION

The expansion at Denison Mine includes installation of three major conveyors, each exceeding 600 m (1). One of the conveyors will transport ore produced in the upper reefs to the No. 1 shaft hoisting facilities which have been rehabilitated. The other two conveyors will transport ore from the new mining areas of the main zone and also from future mining areas. These conveyors feed an underground crushing plant at the No. 2 shaft. Activation of shaft No. 1 was a part of a reconstruction program undertaken to improve ore quality.

Noise measurements were taken during the reconstruction period using a Statistical Distribution Analyzer, B and K Type 4420. This instrument has five selectable rates, more than 24 hours continuous operation at fastest sampling rate and digital display in twelve classes presenting counting time in three counting modes. The noise is irregular in character and a statistical approach was used to express a behaviour otherwise difficult to describe. Noise exposure might be taken as a typical example: one measurement at a particular time is almost meaningless.

SHAFT NO. 1

Measurements of noise at the hoist for ore (skip) were taken 'in cab' and 'out cab' for the identical number of trips (Fig. 1 and 2), (Appendix A):

Shift	Number of Trips	
	July 17, 1979	July 18, 1979
1	21	74
2	30	36
3	77	18
Σ	128	128

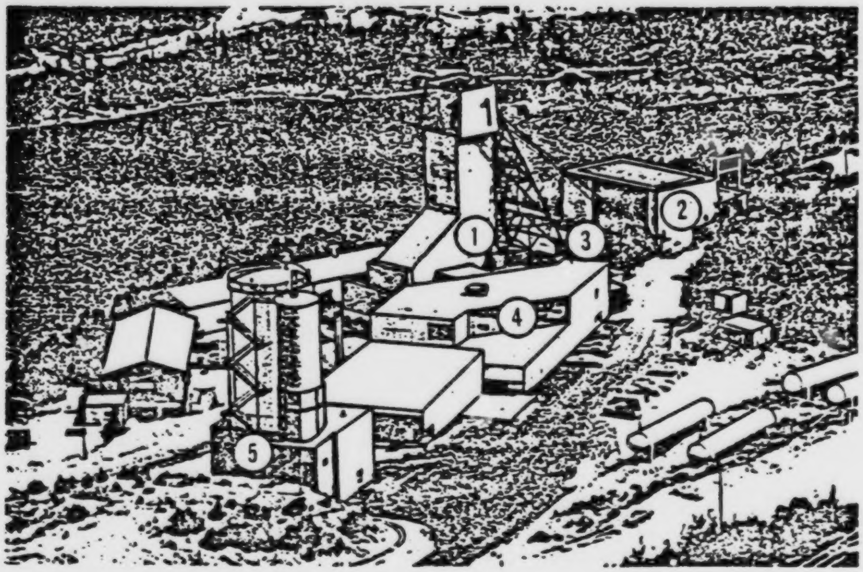


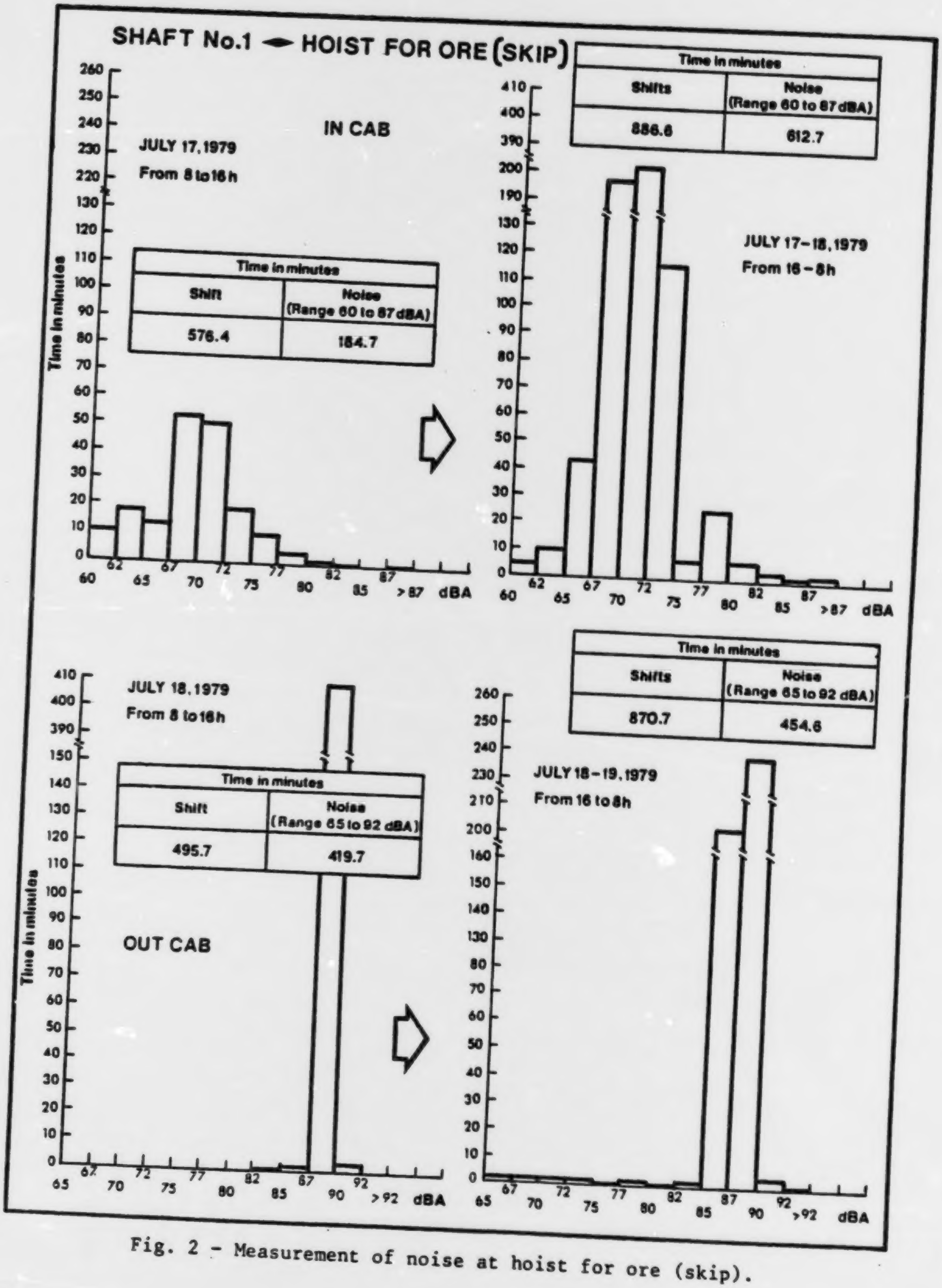
Fig. 1: Shaft No. 1 area: (1) Headframe, (2) Hoist room (cage and skip), (3) Lamp room, shift boss office and general mine offices, (4) Engineering offices and change rooms, and (5) Backfill plant.

This location was considered the best for the accurate measurement of the attenuation of the cab for the following reasons:

1. the hoist room is isolated from secondary sources of noise;
2. there is no work force activity; and
3. the cab was constructed at Denison Mine.

The second and third shift measurements are together, however, this has no bearing on the total evaluation of the results. The number of trips per shift varies and this is an important factor in the evaluation of the total attentuation.

From Fig. 2 it may be concluded that the total attenuation averages 17 to 18 dBA. 'In cab' noise usually does not exceed 80 dBA. Noise greater than 80 dBA 'in cab' lasts 5 to 8 minutes over a shift, and this corresponds to the time during which the cab door is open. The attenuation is acceptable in this application.



JULY 17, 1979, From 8 to 16 h (IN CAB)

Time in minutes	
Shift	Noise (Range 60 to 87 dBA)
576.4	184.7

JULY 17-18, 1979, From 16 - 8 h

Time in minutes	
Shifts	Noise (Range 60 to 87 dBA)
886.6	612.7

JULY 18, 1979, From 8 to 16h (OUT CAB)

Time in minutes	
Shift	Noise (Range 65 to 92 dBA)
495.7	419.7

JULY 18-19, 1979, From 16 to 8h

Time in minutes	
Shifts	Noise (Range 65 to 92 dBA)
870.7	454.6

Fig. 2 - Measurement of noise at hoist for ore (skip).

The second measurement was taken at the hoist for men (cage) with a similar number of trips (Fig. 3). Compressors in and outside the hoist room were important secondary noise sources. Extensive activity of the work force was steady during the test period. Measurements were recorded using the same procedure as for the hoist for ore (skip). Results of 'in cab' and 'out cab' show two maximums. The first maximum results from the hoist machinery and the second from compressors. The results differed significantly from those previously recorded. During the first shift, 'in cab' noise exceeded 80 dBA for nearly 2 hours and exceeded 90 dBA for a few minutes. This type of job requires a quiet environment and maximum concentration. The operator on this occasion complained about the air conditioners and his seat. With further reconstruction is is likely that this will be resolved and new measurements will be required to assess this problem. From the point of view of OSHA (= Ontario Regulations) it would not be possible to find fault in these noise levels, however, experience shows that maximum reliable quiet and attenuation are required. Attenuation of the cab varies from 10 to 13 dBA. The cab was constructed in Denison Mines.

SHAFT NO. 2

At Shaft No. 2 noise measurements were completed as follows: in the cage hoist and compressor room, skip hoist room, at shaft deck area and shaft engineering offices (Fig. 4).

Detailed measurements were previously completed at crushing plant - jaw crusher, crushing plant - cone crusher and shop area, south transfer house and fine ore bin and grinding plant (2,3).

Two hoists are used for the ore transport and are used in parallel as required (Fig. 5). Measurements were completed 'in cab' and 'out cab' on

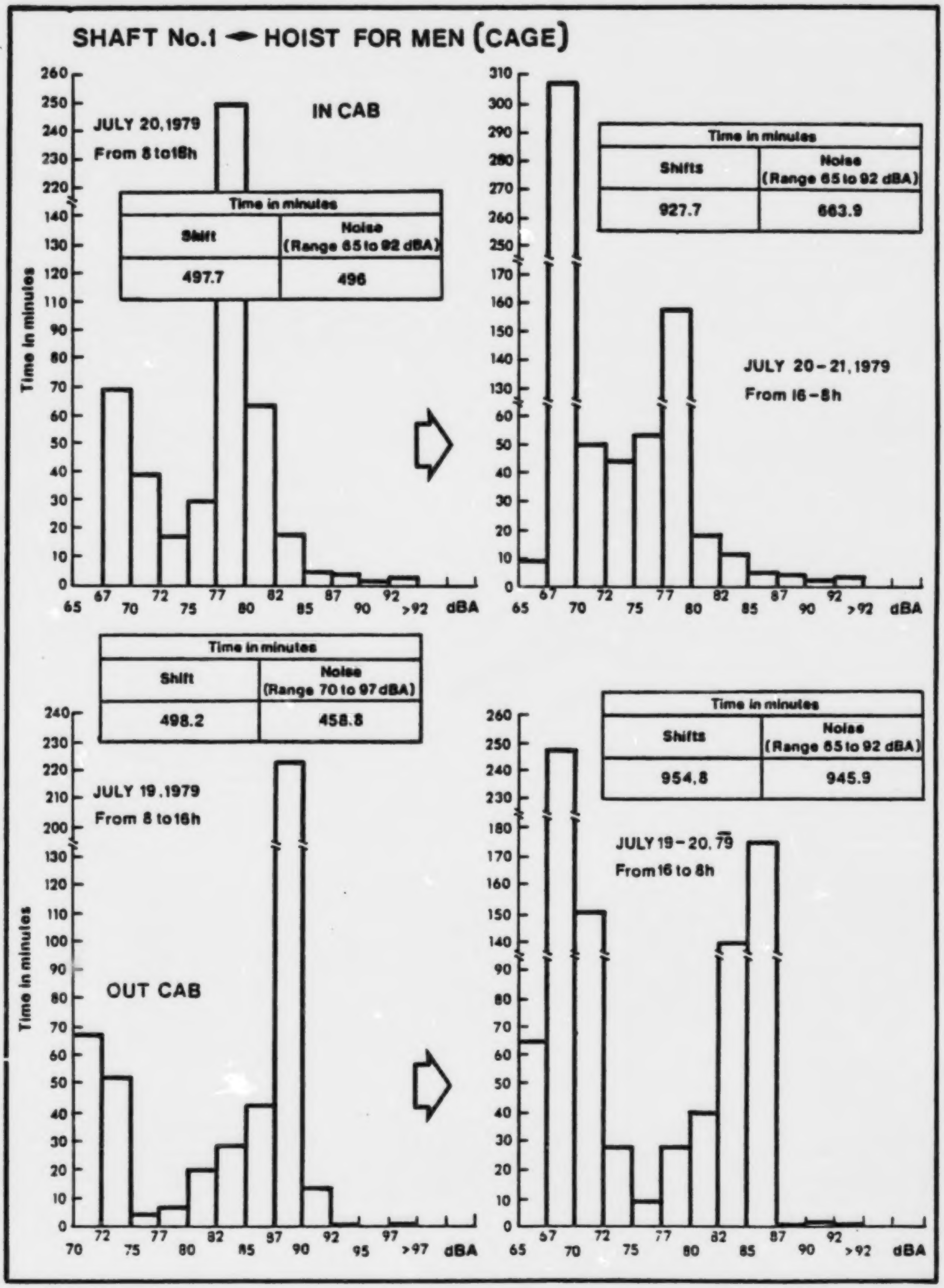


Fig. 3 - Measurement of noise at hoist for men (cage).

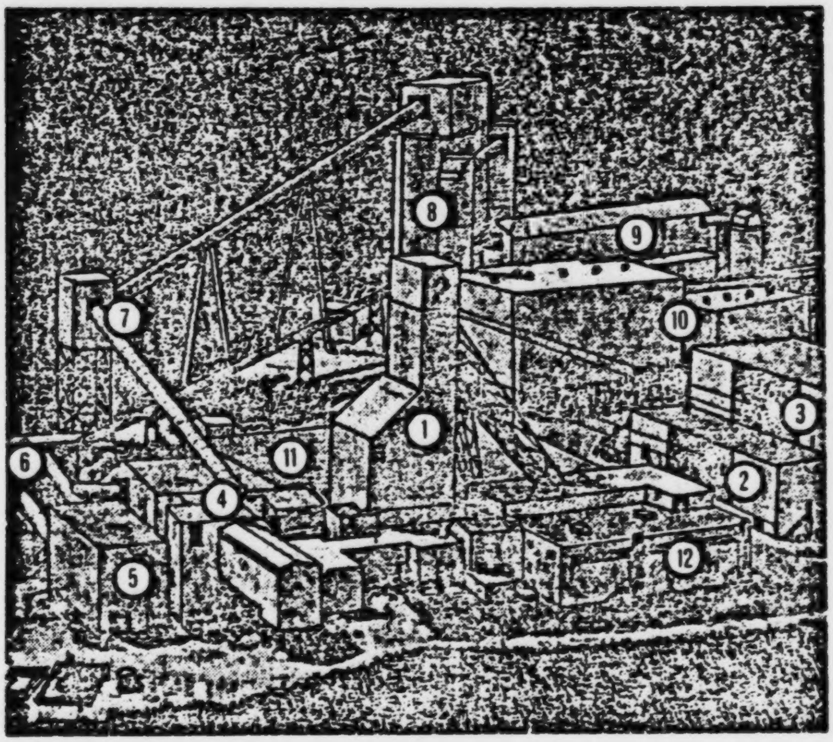


Fig. 4 - Shaft No. 2 area: (1) Shaft headframe, (2) Cage hoist and compressor, (3) Skip hoist, (4) Crushing plant - jaw crusher, (5) Crushing plant - cone crusher and shop area, (6) South transfer house, (7) South transfer tower, (8) Coarse ore storage, (9) Fine ore bin and grinding plant, (10) S.A.G. plant, (11) Shaft deck area, (12) Shaft engineering offices.

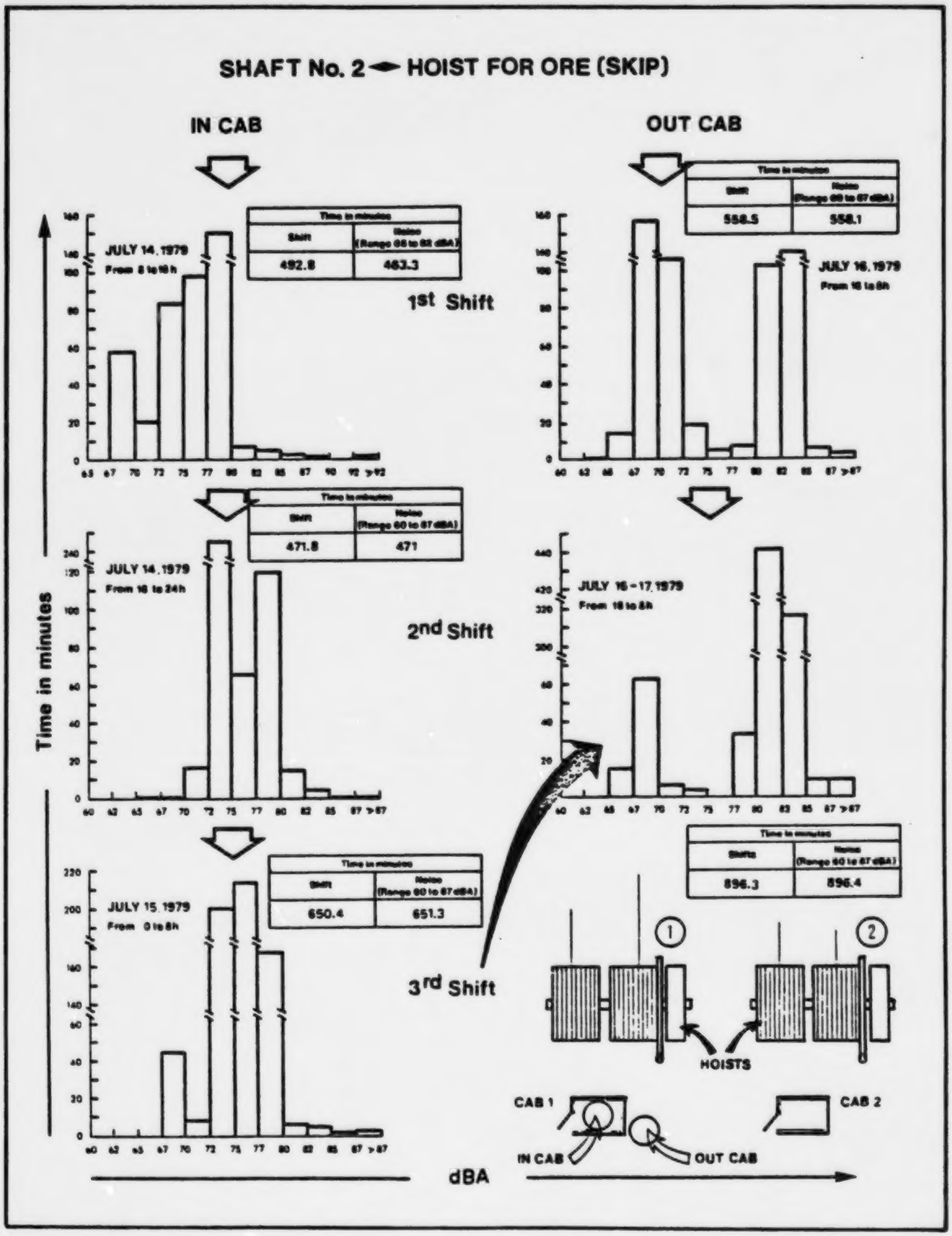


Fig. 5 - Measurement of noise at hoists for ore (skips).

hoist No. 1 (north hoist). Statistical analysis in all graphs show two maxima. The first results from hoist No. 2 (south hoist). Measurement of 'in cab' noise showed a maximum between 72 and 80 dBA. Both cabs are of identical construction, so readings were not taken in cab No. 2. 'In cab' noise is mainly below 80 dBA which complies with the standard. Operators usually leave the cab door open which decreases attenuation. The origin of these cabs is unknown.

In the large hoist room for men there is a hoist and a compressor (Fig. 4). Measurements were completed for three shifts individually due to the importance of the results (Fig. 6). The majority of the work force uses this hoist for transport underground. The large room lessens the noise from the compressor. This is the most sensitive and responsible of the hoist operators' positions. During the first shift measured 'in cab', two peaks are evident. The cab doors were open as the operator complained that the cab was too hot. This situation was repeated more or less on the subsequent shifts. This demonstrates the importance of air-conditioning. 'Out cab' noise was concentrated between 87 and 92 dBA. During the first and third shifts the intensity of noise was noticeably greater than during the second shift. This may be explained by the greater use of compressed air during intensive drilling activity.

NO. 2 SHAFT DECK AREA

The old floor plan of No. 2 shaft deck area is shown in Fig. 7. Measurements show that the noise decreases proportionally with increasing distance from the cage and crushing area. The shift boss's office is an exception to this trend; the reason was not investigated. This is a high traffic area for the work force particularly in the lamp area.

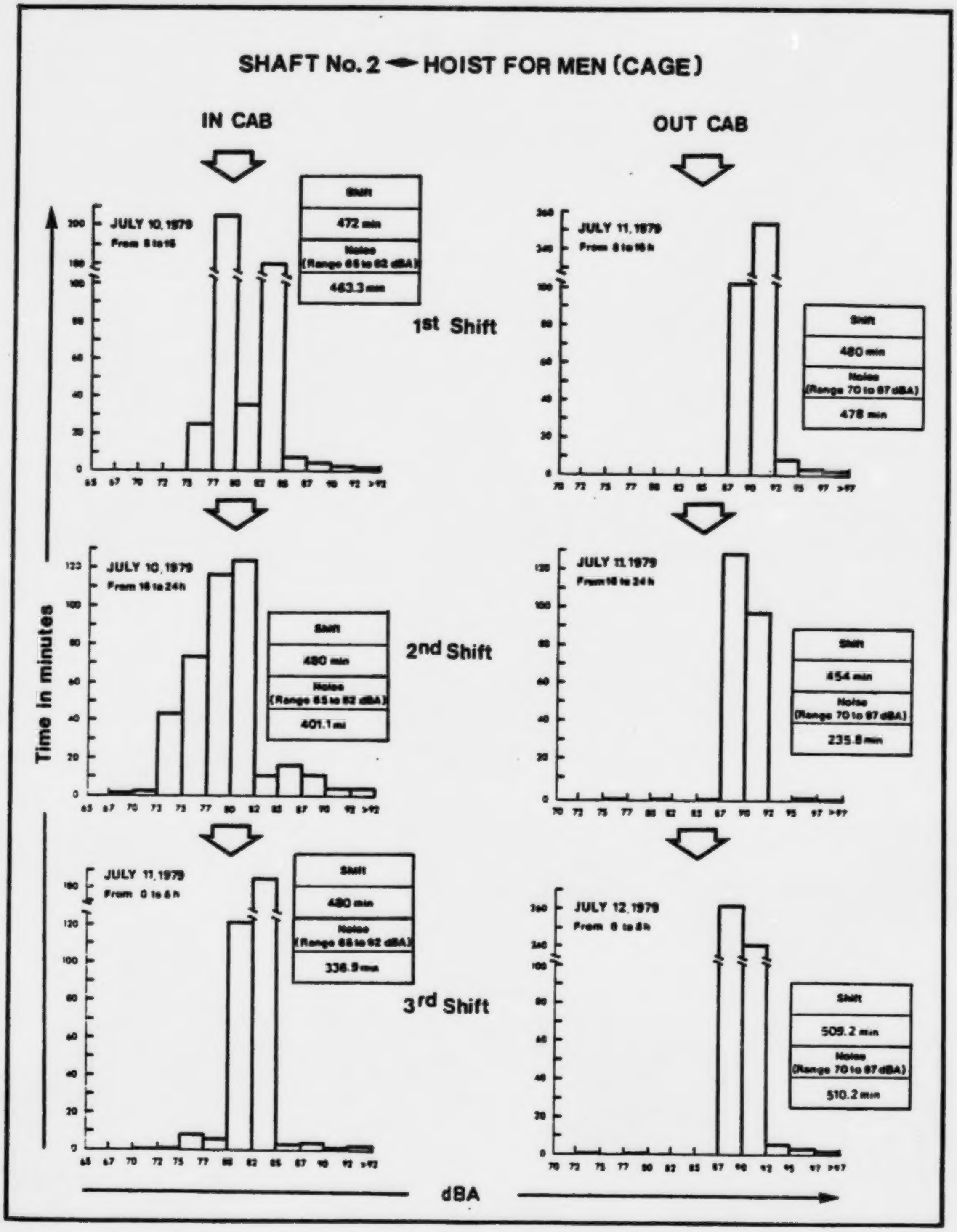


Fig. 6 - Measurement of noise at hoist for men (cage).

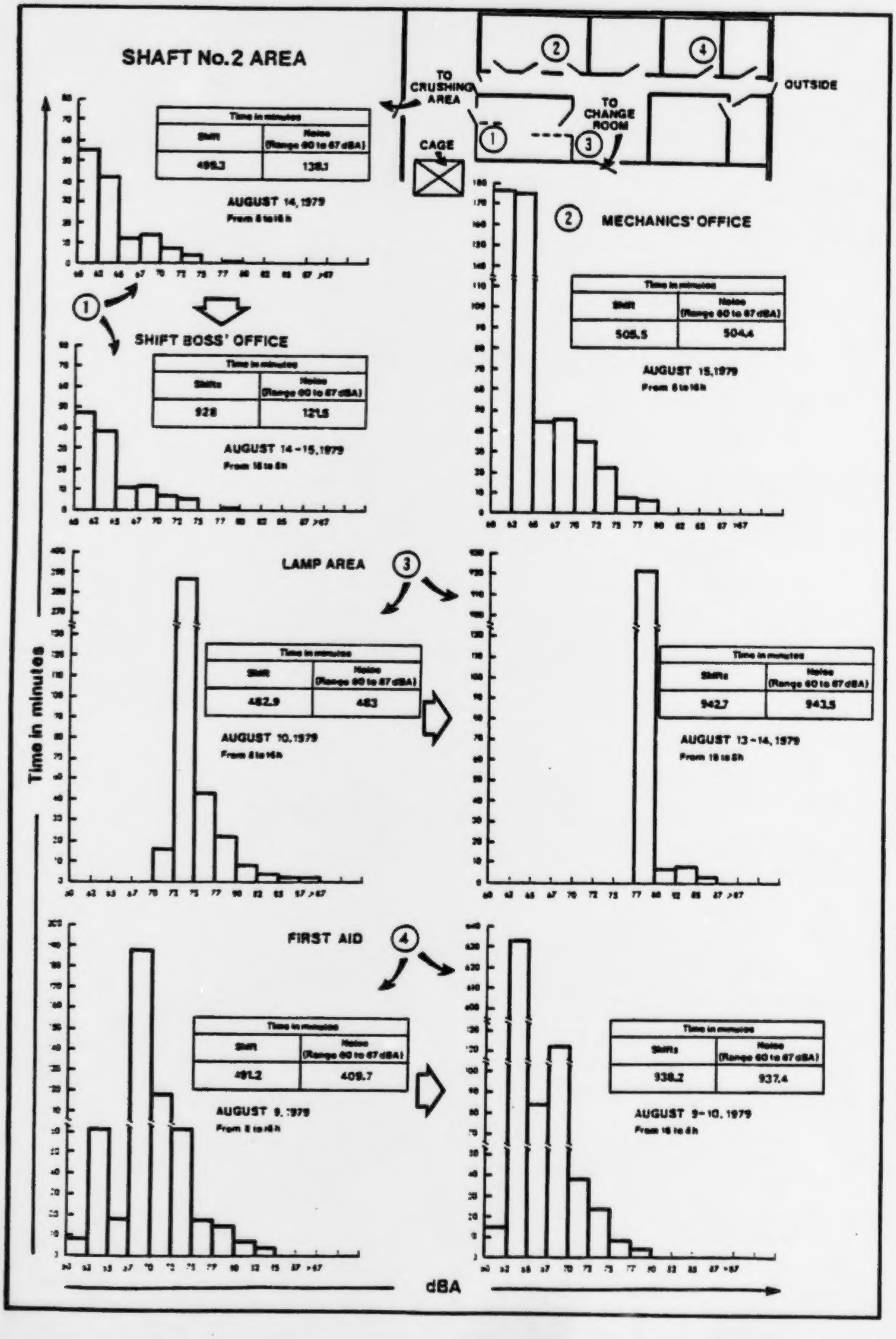


Fig. 7 - Noise measurement at No. 2 shaft deck area.

NO. 2 SHAFT ENGINEERING OFFICES

The objective of measurements was to establish which of the sources was a greater contributor to the noise level in the engineering offices, the compressor in the cage hoist room or the crushing plant (Fig. 4). Analysis of the results show the following (Fig. 8):

1. The noise level is always greatest during the first shift;
2. Statistical analysis of noise showed identical results in the centre of the engineering offices and near the windows in the lower right.
3. The mine superintendent's office is the quietest area of the engineering room.
4. Measurements outside windows showed a large increase in noise. The greatest noise source is at the side closest to the compressor.

It was commonly believed that the major source of noise in the engineering offices was the compressor station, however, results show that a large portion of the noise emanates from the crushing area.

CONCLUSION AND RECOMMENDATIONS

Even though the noise measured was below 90 dBA in all operators' cabs, greater efforts must be made to decrease noise, particularly at the hoist for men at shafts No. 1 and No. 2. It would be desirable to attain noise levels below 70 dBA. This may be achieved with better cabs. In the meantime better temperature control in the cab should be exercised and operators encouraged to keep the doors closed. In the room for hoists for ore (skips) noise in the cabs is almost always less that 80 dBA which may be considered as a good result for this type of work.

In the engineering room measurements should be repeated and should include measurements of vibration to determine the penetrating flows of noise

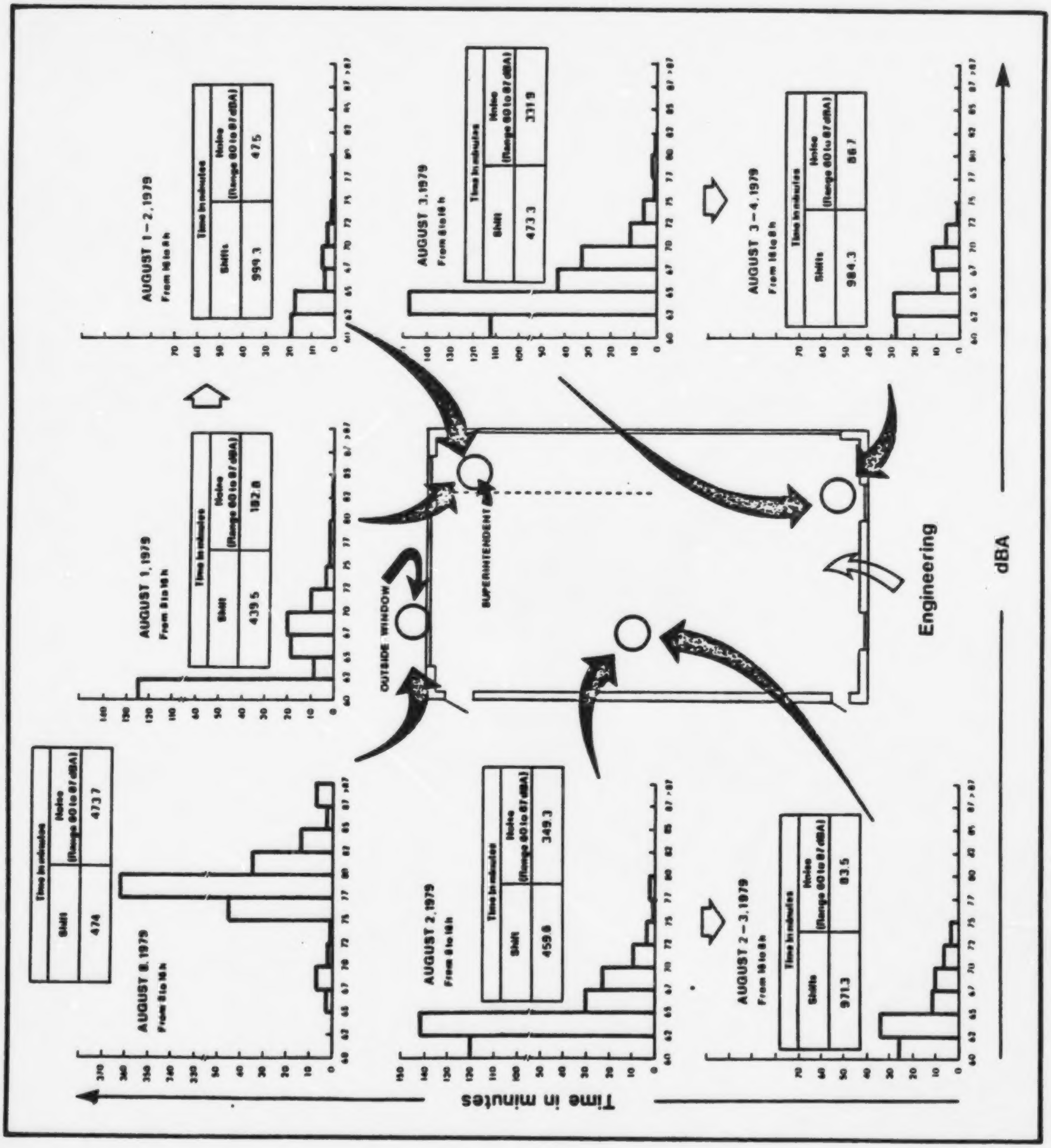


Fig. 8 - Noise measurement at No. 2 shaft engineering offices.

and vibration. This will have practical application in future planning of similar areas.

ACKNOWLEDGEMENTS

The author wishes to express his gratitude to Mrs. C. Dimock, Vice President of Community Relations and Housing, Denison Mines Ltd., for her permission to use the aerophotographs in this report. Thanks are also extended to Mr. D. Lehoux, Mine Ventilation Engineer, Denison Mines Ltd. for his contribution to the rapid solution of technical problems.

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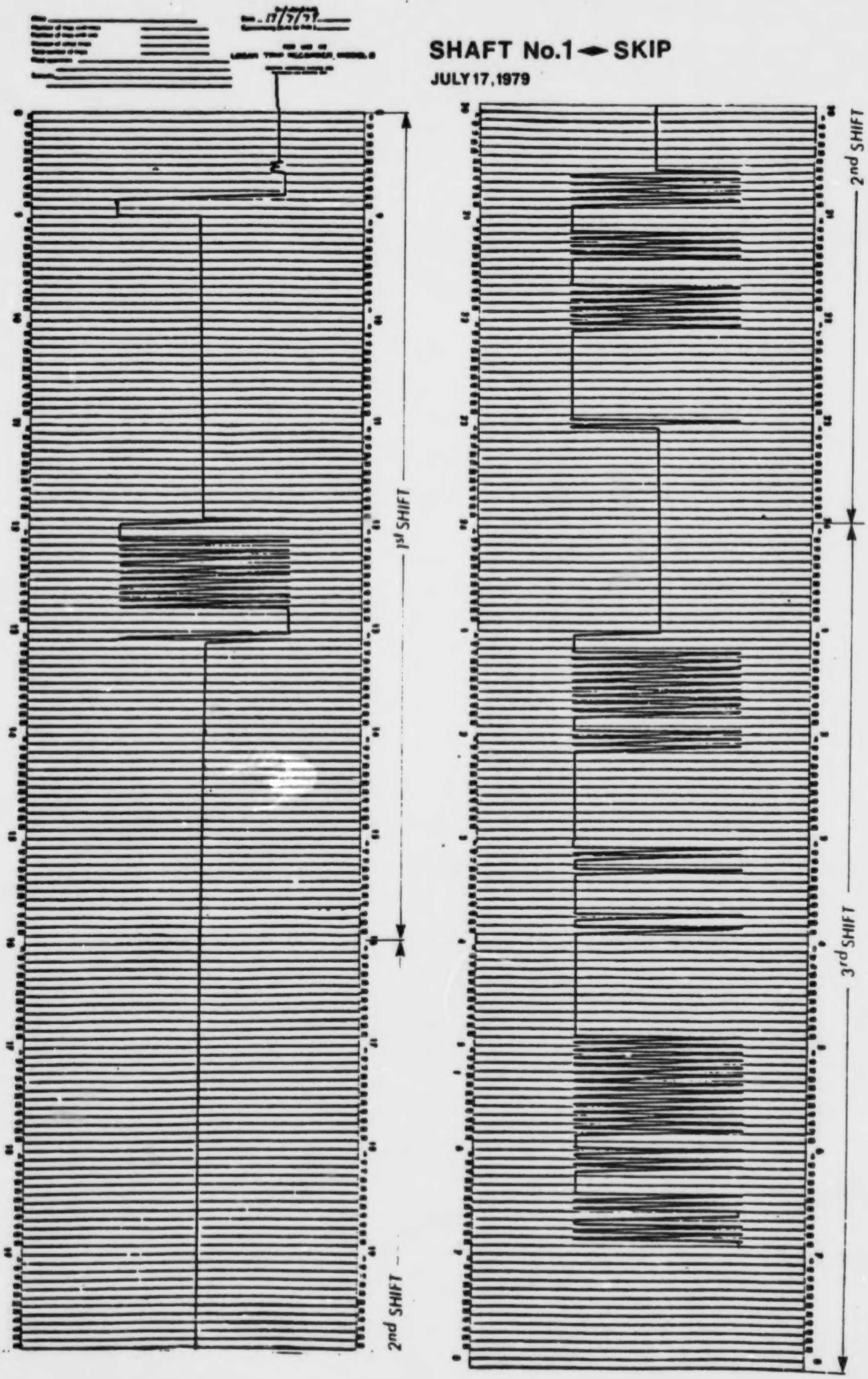
3. Savich, M.U., "Noise measurement in grinding plant and coarse ore storage at Denison Mines Ltd. in Elliot Lake"; Division Report MRP/MRL 81-51(CF); CANMET, Energy, Mines and Resources Canada; April 1981.

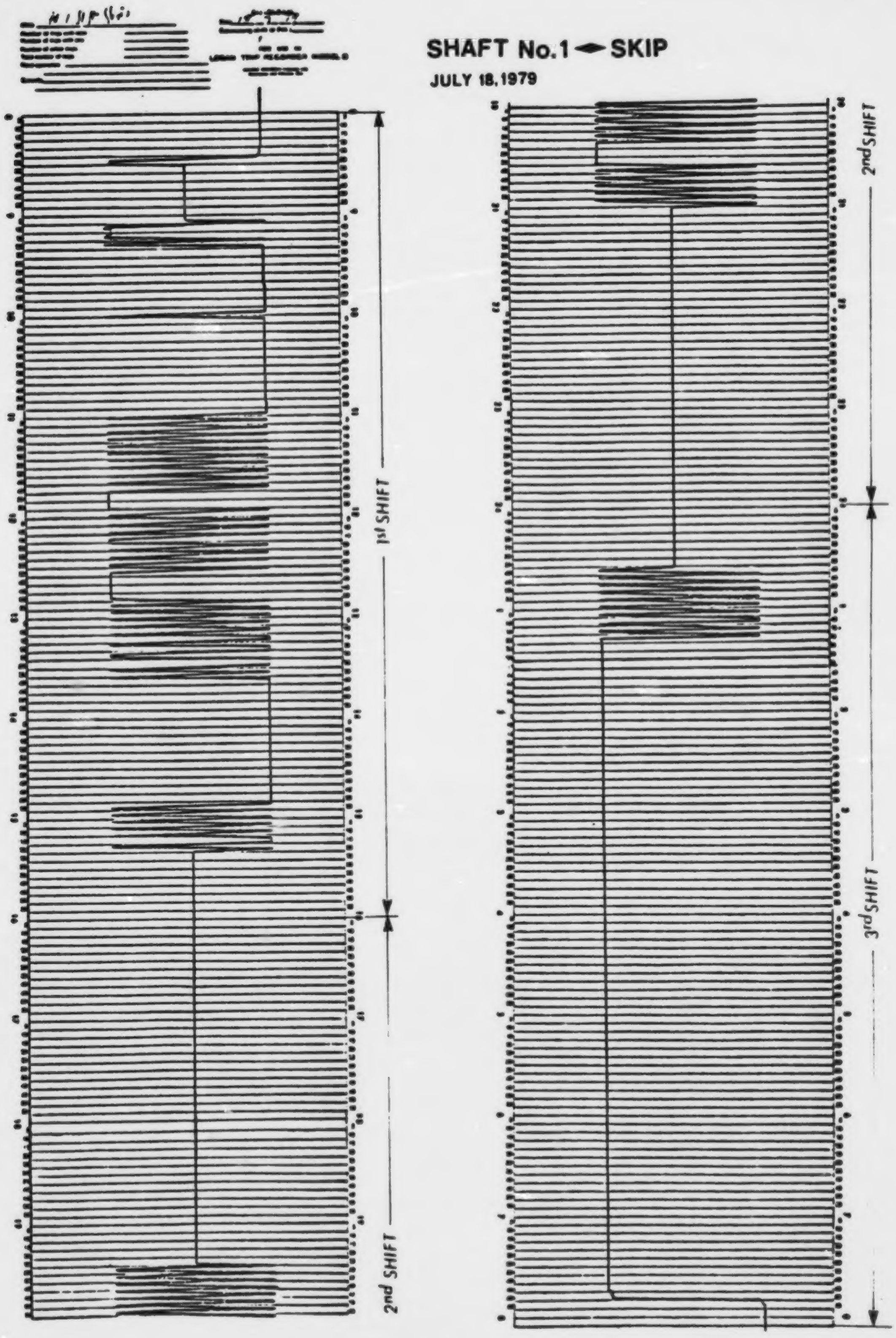


SHAFT No.1 ◄► SKIP

JULY 17,1979

SHAFT No.1 ◄► SKIP

JULY 18,1979



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VOL. 4 B Report 8

84 - 54 M. U. Savich

Problems and solution of environmental noise at Indusmin Ltd., Midland, Ontario

1984

PROBLEMS AND SOLUTION OF ENVIRONMENTAL NOISE AT INDUSMIN LTD., MIDLAND, ONTARIO

by

M.U. Savich*

ABSTRACT

The high level of noise coming from the plant of Indusmin's Ontario Silica Division in Midland has created a community environmental problem (56 to 59 dBA).

Preliminary measurements have demonstrated that the noise level about the plant can be decreased by an insulation of the plant and an enlargement of the green belt around its boundaries. The key to a solution lies in a close rapport and cooperation between the Company and Midland City Hall.

In their dialogue, Indusmin Ltd., City Hall and the Ontario Government should all take the following facts into account.

- because Canada now imports much silica, and Ontario needs more silica than the Province is producing, it is reasonable to expect an increase in production capacity at Midland to take effect in the near future;
- silica production is responsible for thousands of jobs in Ontario, and many more throughout Canada.
- although the Midland location constitutes prime land for Ontario industries, it is also a popular tourist area. Since it is not desired to develop industry at the expense of tourism, and all its economic benefits, the community environmental problem should be addressed immediately.

---

* Research Scientist, Elliot Lake Laboratory, CANMET, Energy, Mines and Resources Canada, Elliot Lake, Ontario.

PROBLÈMES DU BRUIT PRODUIT PAR L'INDUSMIN LTD, À MIDLAND, EN ONTARIO ET SOLUTIONS

Par

M.U. Savich*

RÉSUMÉ

Le bruit venant de l'usine de Midland de la Division de la silice d'Indusmin, en Ontario, a créé un problème environnemental dans cette collectivité (56 à 59 dBA).

Des mesures préliminaires indiquent que le bruit autour de l'usine pourrait diminuer si l'usine était mieux isolée et si la zone de verdure qui l'entoure était agrandie. La seule solution réside donc dans une collaboration étroite entre la société et la municipalité de Midland.

Dans leurs discussions, Indusmin Ltd, la ville de Midland et le gouvernement de l'Ontario devraient tenir compte des facteurs suivants:

- comme le Canada importe beaucoup de silice et que les besoins de l'Ontario sont supérieurs à sa production, il est raisonnable de prévoir, dans une avenir rapproché, une augmentation de la capacité de production de l'usine de Midland;
- bien que Midland soit un emplacement privilégié pour les industries ontariennes, c'est aussi une région touristique; il ne serait donc pas souhaitable de laisser l'industrie se développer aux dépends du tourisme et des avantages économiques qui en découlent. Il faut donc régler ce problème d'environnement immédiatement;
- des milliers de travailleurs ontariens et beaucoup plus de Canadiens travaillent dans le secteur des produits de la silice.

---

* Scientifique, Laboratoire d'Elliot Lake, CANMET, Énergie, Mines et Ressources Canada, Elliot Lake, Ontario.

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INTRODUCTION

On a geological map of Ontario, one can see that the rock, south of a line extending from Midland to Kingston and the eastern tip of Ottawa, is of a Paleozoic sedimentary formation. The sand, gravel and clay now covering much of Southern Ontario was deposited over four ice ages, the most recent of which was about 10,000 years ago (1). Glaciers in the north eroded Precambrian rocks containing metalic minerals and deposited potential building materials in the south, where 90% of Ontario's population now lives and uses them.

Silica (SiO_2), of Precambrian age, is one of the most common minerals. Commercial sources are restricted to pure sands, sandstone quartzites, and vein quartz. Silica, however, has a low unit value. For a deposit to be economically viable it should be mineable by low cost methods and, so as to minimize transportation costs, should be close to the consuming areas.

Indusmin Ltd., a member of the Falconbridge group of Companies, quarries a high-grade silica deposit of pure Precambrian Lorraine quartzite on Badgeley Island in Georgian Bay. A primary crushing plant at the deposit site, some 190 km north of Midland, and a grinding and processing plant in Midland, came on-stream in 1970 (Fig. 1). The Badgeley Island operation has a capacity of approximately 1 million tons per year. Primary products from the crushing plant on the island are shipped directly to manufacturers of ferro-silicon, which is applied in various metallurgical processes. Products are also shipped to the Midland grinding plant, which has a capacity of about 500,000 tons per year, where refined silica products are made (2).

Use of high-purity silica sand is widespread. It is the basic constituent of glass and is used as a metallurgical flux. It is also used in: the manufacture of silicon carbide, which is used as an ore of silicon and ferrosilicon; as foundry sand for metal casting; in sand casting; as filler

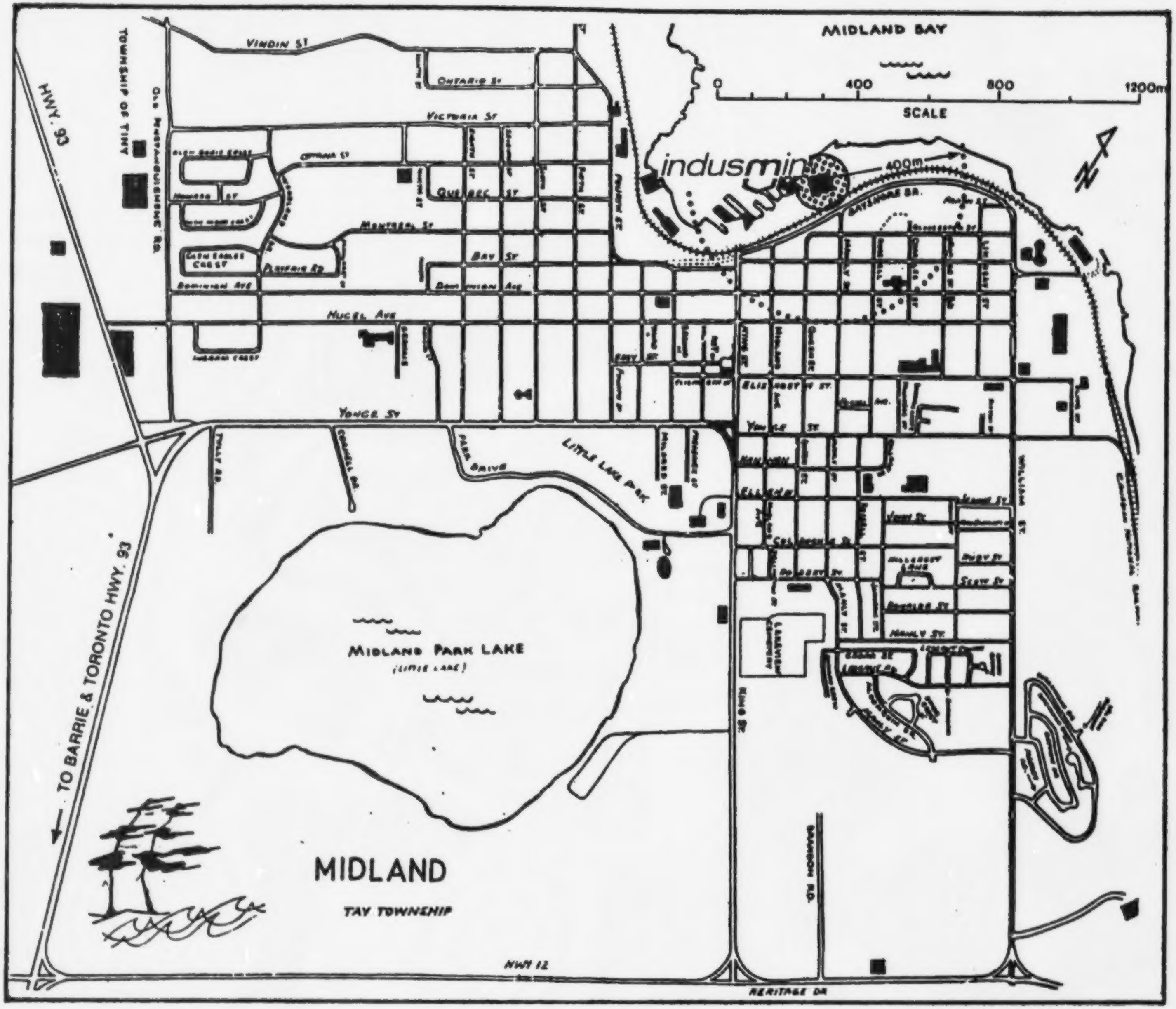

MIDLAND BAY
0
400
800
1200m
SCALE
indusmin
400m
VINDIN ST
ONTARIO ST
VICTORIA ST
QUEBEC ST
MONTREAL ST
BAY ST
DOMINION AVE
HUGEL AVE
YONGE ST
ELIZABETH ST
KING ST
WILLIAM ST
FOURTH ST
BAYSHORE DR.
PLAYFAIR RD
LITTLE LAKE PARK
PARK DRIVE
TULLY RD.
CORNELL DR.
MIDLAND PARK LAKE
(LITTLE LAKE)
MIDLAND
TAY TOWNSHIP
TOWNSHIP OF TINY
OLD PENETANGUISHENE RD.
HWY. 93
TO BARRIE & TORONTO HWY. 93
HWY 12
HERITAGE DR
BRANDON RD.
LAKEVIEW CEMETERY
CANADIAN NATIONAL RAILWAY

Fig. 1 - Location of Indusmin's plant in Midland.

in tiles and asbestos cement pipes; for fibreglass insulation; and, light concrete and bricks ('Siporex'). The diverse list of products is almost endless (3).

After short analysis, it can be concluded that the location of Indusmin in Midland is appropriate for three reasons:

1. The grinding and processing plant at Midland is close to a consumer area (distance from Midland to Toronto is 143 km).
2. A good highway exists and there are railway connections to the plant.
3. The plant employs people directly from Midland, and, indirectly thousands across Ontario in industries ranging from metallurgy to construction.

With the construction of Indusmin's Ontario Silica Division in Midland, a community environmental problem arose due to the high level of noise coming from the plant. Preliminary measurements have demonstrated that the noise level around the plant can be decreased.

MILL NOISE - SCREENING AND GRINDING BUILDING

Octave band frequency noise measurements of the screening and grinding plant have been re-evaluated (Table 1). Three different evaluations of the results have been made:

1. dBA evaluation over frequencies of 31.5 Hz to 125 Hz; which have no bearing on the final result;
2. dBA evaluation over frequencies of 31.5 Hz to 250 Hz; which have a minor bearing on the final result; and
3. dBA evaluation over frequencies of 250 Hz to 8 kHz; which yields almost the same result as dBA estimated over all frequencies.

Table 1 - Frequency spectrum of noise at the screening and grinding building (4).

No.	Location	Frequency (Hz)									dBA				
		31.5	63	125	250	500	1k	2k	4k	8k	Meas'd	Est'd	250 Hz to 8 kHz	31.5 Hz to 250 Hz	31.5 Hz to 125 Hz
1	Primary Mill Room	105.5	98	102.5	107	110.5	112.5	111.5	106.5	96	116.5	116.7	116.7	98.3	86.7
2	Steel Mill Fan	105.5	102	104.5	97	96	93.5	87.5	81	72.5	97.5	97.9	97.4	91.2	88.3
3	Steel Mill	103	97	98.5	100.5	101	98.5	94.5	87.5	79.5	102.5	102.7	102.6	92.1	82.9
4	Mill MCC	89	82	84	80.5	77.5	79.5	80.5	70.5	63.5	84.5	84.7	84.6	73.2	68.3
5	Mill Workshop	90	83.5	81.5	78.5	82.	79	74.5	69.5	61.5	82.5	83.4	83.3	71.2	66.3
6	Silex Mill	97.5	91.5	101	99	100.5	97.5	93	89.5	82	101	102.1	102	91.2	85.1
7	Silex Mill Fan	101.5	97	105.5	101.5	98.5	94	86.5	81.5	72.5	99.5	99.8	99.3	94.3	89.6
8	Primary Fan	104.5	97.5	97.5	96.5	94.5	90.5	84.5	79.0	72.5	94.5	95	94.8	88.6	82
9	2nd Floor Outside Control Rm.	97.5	91	91.5	89.5	89.5	86.5	81.5	75.5	64.5	90.5	91	90.9	81.8	75.9
10	Mill Control Room	88.5	81.5	76.5	73.5	71	68.5	62.5	54.5	48	73	73.1	72.8	66.4	62
11	Maint. Foreman's Office	93	85.5	88.5	77.5	71.5	65.5	62.5	53.5	42	75	75.9	73.1	74.1	72.7
12	3rd Floor Blowers	102	95.5	88.5	85.5	86	83.5	79.5	74.5	66.5	87.5	87.9	87.9	78.7	74.6
13	3rd Floor Above Primary Mill	107.5	97.5	90	87.5	87.5	85.5	82.5	75.5	66.5	89.5	89.9	89.9	80.7	76.7
14	Tyler Screen	111.7	103.2	90	89	88.7	88.2	83	79.3	74.3	91.8	92.1	91.8	82.9	79.8
	: South	105.5	96	87	88.5	88.5	87.5	82.5	77.5	70.5	90.5	(91.3	91.2	79.5	74.3)
	: Central	116	109	91	90.5	89.5	89.5	84	80.5	76	93.5	(93.5	92.9	86.3	84.5)
	: North	113.5	104.5	92	88	88	87.5	82.5	80	76.5	91.5	(91.7	91.3	83.4	81.4)
15	Sweco Room 4th Floor: outside	109.5	101	86.5	86.5	86.5	85.5	81.5	79.5	76.5	89.9	(90.1	89.8	80.4	77.3)
	: inside	102	93.5	96	91.5	94.5	97.5	97.5	97	95.5	103.5	103.7	103.7	84.5	80.3
16	Sweco Room 5th Floor: outside	100	91	92.5	83.5	84.5	84.5	82.5	81	78.5	89.5	(89.7	89.5	78.9	76.9)
	: inside	100	92	94	94.5	96.5	98	97.5	96.5	96	103.5	103.9	103.9	86.3	78.3
17	5th Floor: Central	99	91.5	89.5	86.5	85.5	86.5	82.5	81.5	76.5	90.5	90.6	90.5	79.2	74.3
18	6th Floor Blower	99	91	89.5	85.5	89.5	87.5	85.5	83.5	70.5	92	92.6	92.5	78.5	74.2
19	# 16 Conveyor Gallery	91	82.5	85.5	82.5	84.5	82.5	78.5	72.5	64.5	86.5	86.7	86.6	75	69.8
20	Top of Flour Silos	90	92.5	93.5	89.5	95.5	95.5	95	86.5	80.5	99.5	100.1	100	82.4	77.8
21	Top of Sand Silo	91	84.5	97.5	85.5	91.5	90.5	89.5	87.5	83.5	96.5	96	95.9	82.7	81.5
22	7th Floor	89.5	83.5	88.5	83.5	85	80.5	79	76.5	64.5	86	86.8	86.6	76.7	72.7
23	8th Floor	93	86	87.5	84.5	84.5	82.5	79.5	75	65.5	87.5	87.2	87.1	77.1	71.9
											Mean	93.03	92.78	82.05	77.03
											Std. Dev.	9.8	10.05	7.95	7.07

Note: ( ) not estimated

In the final evaluation (mean and standard deviation), measurements at the No. 14 Tyler screens South, Central and North locations were not taken into account. Only the mean for the Tyler screen locations was used. Also, not taken into account were measurement results for No. 15 Sweco Room, 4th floor (outside), and No. 16 Sweco Room, 5th floor (outside). Final results show that estimated 93.03 ± 9.8 dBA is almost equal to the estimated range of 250 Hz to 8 kHz - 92.78 ± 10.05. In order to clarify the situation in the Screening and Grinding Building, a frequency spectrum graph of noise was constructed (Fig. 2). From this graph it is evident that the highest noise level is in the Primary Mill Room. This means that it is one of the most hazardous sources of noise, especially since noise over the audible frequency range is very high (at 1 kHz it is about 113 dBA).

Another important aspect is the noise spectrum in the maintenance foreman's office and mill control room. The conspicuous slope over all frequencies proves that noise from 150 Hz to 8 kHz can be successfully decreased. In the maintenance foreman's office, only frequencies of 31.5 Hz and 63 Hz show no marked decrease in noise. This means that more effective insulation should be placed in strategic locations, insulation which would decrease noise to an acceptable minimum outside the mill. It should be underscored that such a task is not an easy one, where in a relatively small space, 23 blowers, 16 fans, grinders and screens are installed. Those who have worked in these, or similar industries in silicate or asbestos, know that every machine enclosure is unwelcome because unseen leakages occur when abrasion creates holes. Appropriate measures should then be taken immediately as there is a threat of creating a more difficult and dangerous environment - one of dust pollution.

DRYING BUILDING, FLOUR AND LOADER

The same re-evaluation of measurement results was done in the case of

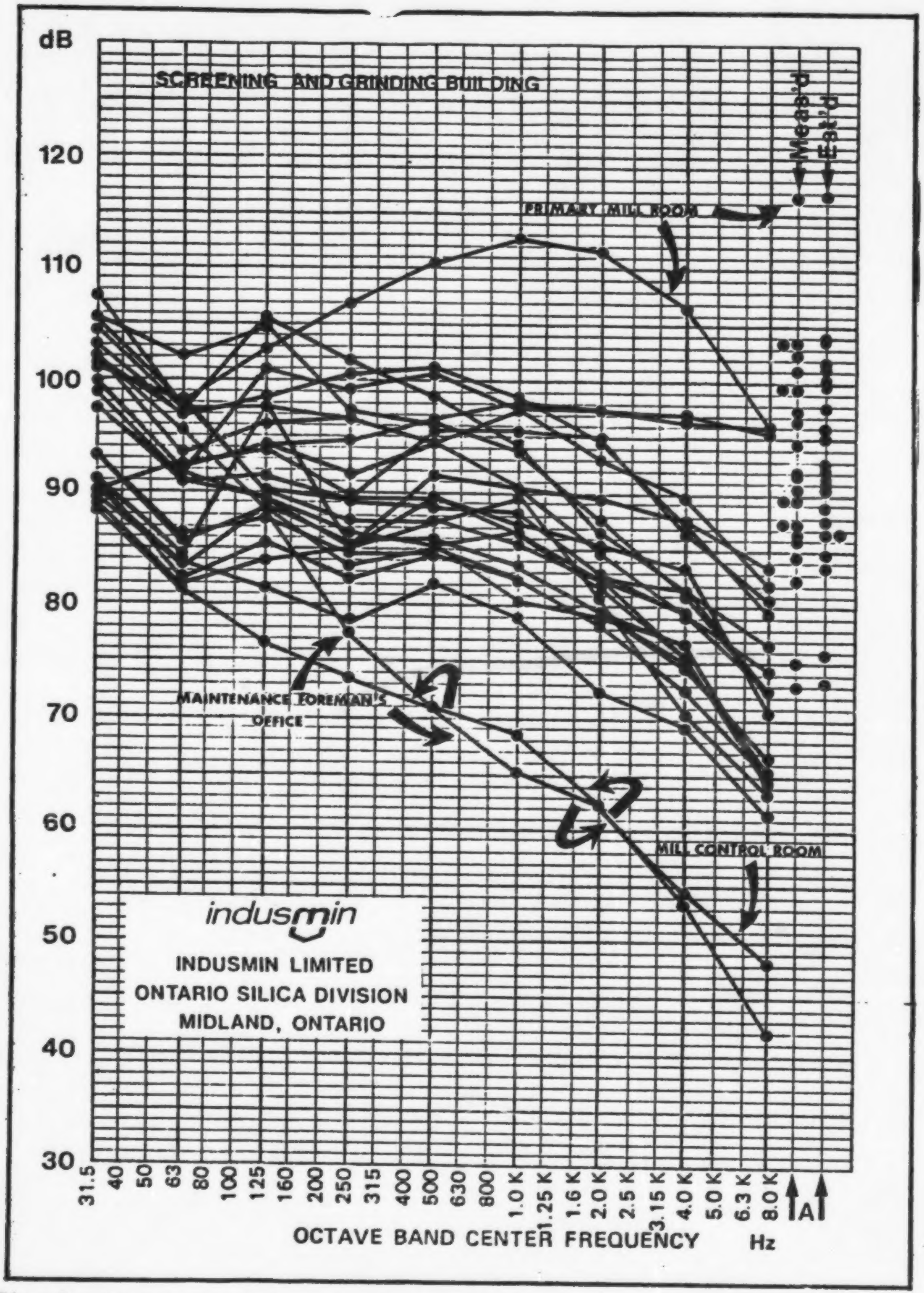


Fig. 2 - Frequency spectrum graph of noise at the screening and grinding building. The acoustic energies over the audible frequency range (250 Hz to 2000 Hz) are not equal.

Table 2 - Frequency spectrum of noise at the drying building, flour and loader (4).

Drying Building

No.	Location	Frequency (Hz)									dBA				
		31.5	63	125	250	500	1k	2k	4k	8k	Meas'd	Est'd	250 Hz to 8 kHz	31.5 Hz to 250 Hz	31.5 Hz to 125 Hz
1	MCC	82.5	78	90	86	79.5	73.5	65.5	57.5	50.5	80	81.7	80.9	78.8	74
2	Blowers	89	90	95.5	95.5	96.5	99	96	91.5	82.5	102.5	102.5	102.4	87.3	79.6
3	Dryer	89	88	93.5	94.5	98	101	100.5	97.5	92.5	104.5	105.9	105.9	86.2	77.7
4	Combustion Chamber Fan	93	98.5	95.5	105	101	87.5	94.5	90.5	82.5	102.5	102.1	102	96.1	80.3
5	Crusher	93	89	96	98.5	101.5	101.5	96.5	91.5	82.5	103.5	104.7	104.7	90	80.1
6	Control Booth: outside	89	88	88.5	93.5	95.5	97.5	94.5	89.5	81.5	101.5	(101.5	101.5	84.8	72.9)
	: inside	86	80	81.5	74.5	65.5	59.5	59.5	55.5	43.5	69.5	70.9	69.4	68.7	65.8
7	Tyrock Screen	94.5	90	96.5	93.5	92.5	92	89.5	85.5	80	96.5	96.9	96.4	86	80.6
	Note: ( ) not estimated.										Mean	94.91	94.53	84.73	76.87
											Std. Dev.	13.41	13.97	8.75	5.40

Flour

No.	Location	Frequency (Hz)									dBA				
		31.5	63	125	250	500	1k	2k	4k	8k	Meas'd	Est'd	250 Hz to 8 kHz	31.5 Hz to 250 Hz	31.5 Hz to 125 Hz
1	Load Out Station (operation position)	88	82.5	94	91.5	92.5	89	88.5	85.5	74.5	95.5	95.2	95	83.8	78
2	Airslide Blower (2nd Floor)	85.5	83	89	91.5	98.5	94.5	95.5	96.5	87.5	101.5	102.3	102.3	83	73.1
3	Under Flour Silo	83.5	79	86.5	86.5	87.5	83.5	77.5	70	64.5	86.5	88.2	88.1	78.3	70.6
4	Flour Silo Airslide Blower Room	75.5	87.5	108	109.5	113	103	95.5	90.5	90	112.5	111.4	111.4	101.1	92
											Mean	99.28	99.2	86.55	78.43
											Std. Dev.	9.92	9.99	10	9.56

Loader

No.	Location	Frequency (Hz)									dBA				
		31.5	63	125	250	500	1k	2k	4k	8k	Meas'd	Est'd	250 Hz to 8 kHz	31.5 Hz to 250 Hz	31.5 Hz to 125 Hz
1	Idle (in Cab)	80	85.5	83.5	78.5	78.5	74.5	68.5	59.5	49.5	80.5	79.5	79.2	71.9	68.1
2	Full Load Speed (in cab)	88.5	89.5	99.5	91.5	91.5	88.5	85.5	77.5	70.5	93.5	93.7	93.3	86	83.5
3	Idle (Beside)	84.5	80	78.5	78.5	81.5	77.5	72.5	65	55.5	81.5	82.2	82.1	70.4	63.1
4	Full Load Speed (beside)	84	82.5	93.5	94.5	95.5	92.5	88.5	83.5	87.5	96.5	97.4	97.4	86.1	77.5
											Mean	88.2	88	78.6	73.05
											Std. Dev.	8.69	8.73	8.62	9.17

the Drying Building, Flour and Loader (Table 2). For the most part, everything that has been said about the Screening and Grinding Building can be repeated here. Drying Building noise has a sloped curve in two instances: MCC and control room (Fig. 3). Noise attenuation at low frequencies is nominal. The drying and crushing building is also a hazardous source of noise. Gauging the contribution of the drying and crushing building to overall boundary noise can be easily done by stopping work in the screening and grinding building, and vice versa. The flour and loader are insignificant noise sources, but the flour silo airslide blower room has a high noise level (112.5 dBA). Low frequencies are at a low level, which is good because this facilitates attenuation (Table 2). The loader's noise can be lowered by another 5 dBA, but the presence of low frequencies will remain at the same level.

BOUNDARY NOISE SURVEY

Measurements for a boundary noise survey were taken around the Ontario Silica Division in Midland, Ontario. Figure 4 shows the locations at which these measurements were taken. Two of them were made on Manly Street. The noise levels were measured with two sound level meters, one a Type 2, and the other a Type 1. The Type 2 sound level meter was used to measure SPL (Sound Pressure Level), L_{eq} and Peak, and these results are plotted in Fig. 5. The results of No. 19, 20 and 21 are not included in Fig. 2 as they had a different purpose. The SE boundary has the highest noise level. At 100 m from the grinding and screening mill, the noise level was considerably less, 56.3 dBA, but still too high to meet community noise standards. The energy equivalent continuous level (L_{eq}) is a constant sound pressure level (SPL), which has the same energy as time-varying noise for a specified time duration. In this case, L_{eq} and SPL have the same or nearly the same results. Peak or impact, however, is somewhat more understandable. The meter has a rise time of about 20 μsec and drives the peak it finds into an amplifier. The amplifier, in turn, drives

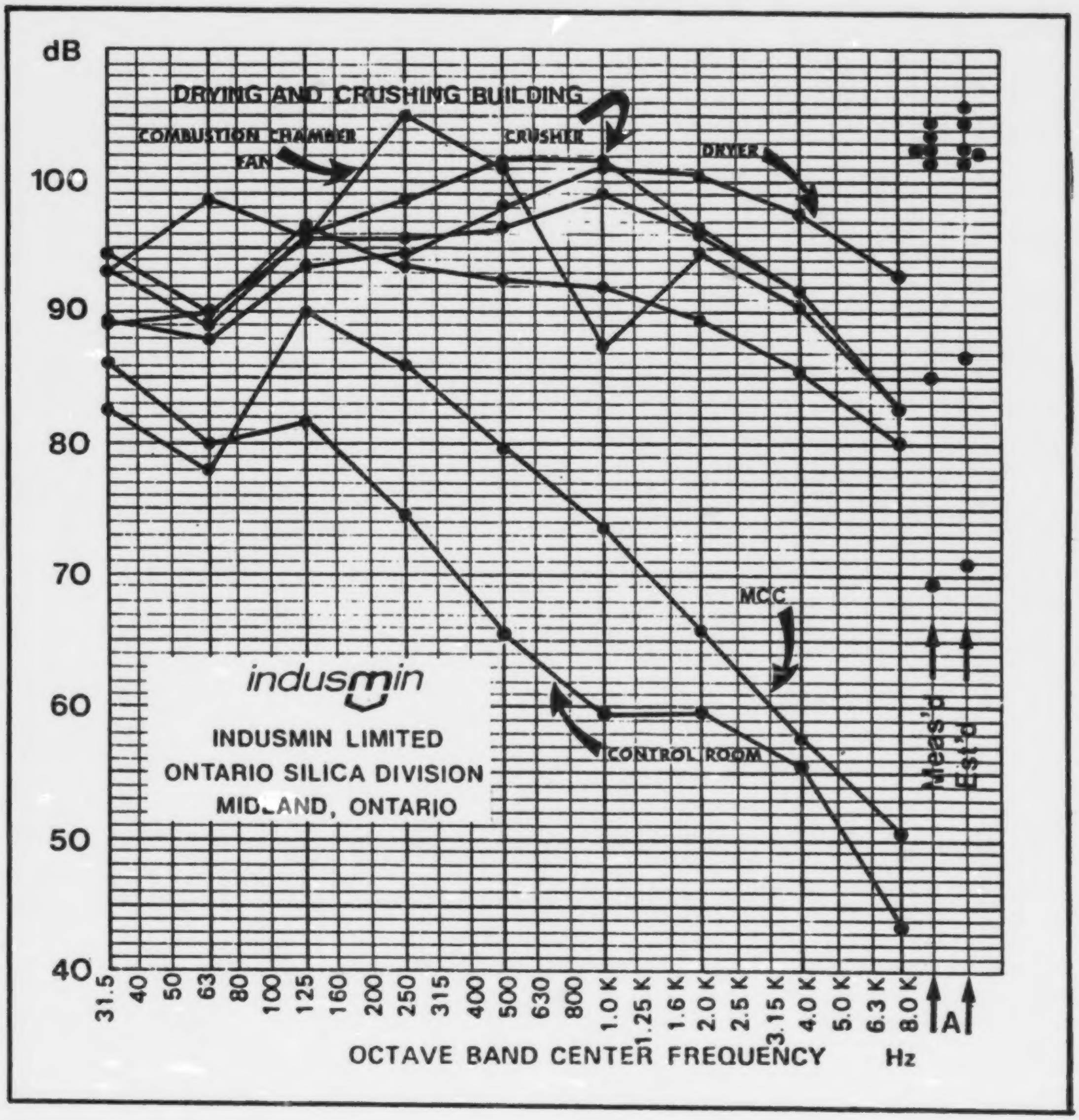
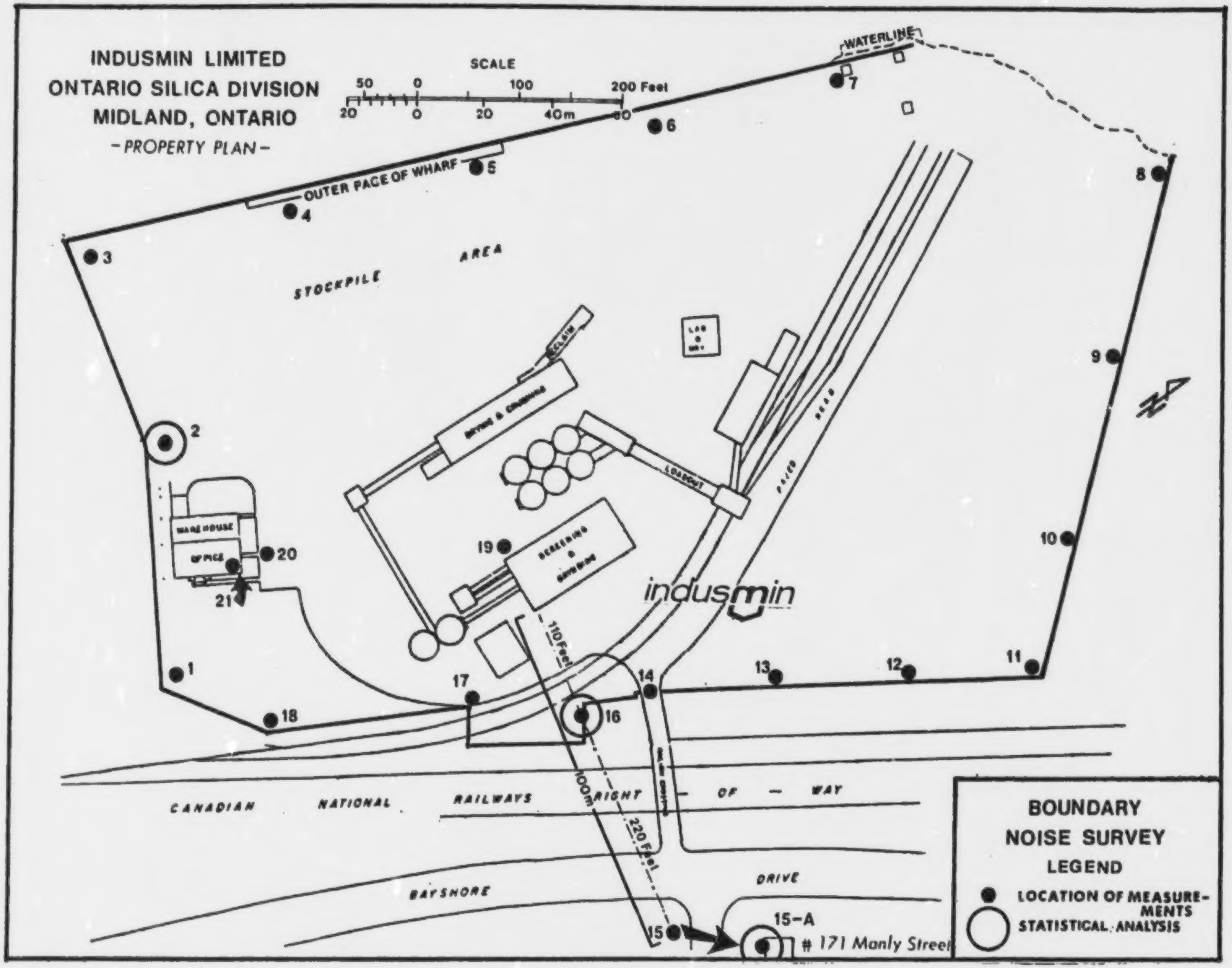


Fig. 3 - Frequency spectrum graph of noise at the drying and crushing building.


INDUSMIN LIMITED
ONTARIO SILICA DIVISION
MIDLAND, ONTARIO
-PROPERTY PLAN-
SCALE
50
0
100
200 Feet
20
0
20
40m
60
OUTER FACE OF WHARF
WATERLINE
STOCKPILE
AREA
WAREHOUSE
OFFICE
DRYING & CRUSHING
SCREENING & GRINDING
LOADOUT
RECLAIM
PAVED ROAD
indusmin
110 Feet
100m
220 Feet
CANADIAN NATIONAL RAILWAYS RIGHT — OF — WAY
BAYSHORE DRIVE
# 171 Manly Street
1
2
3
4
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15
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21
BOUNDARY
NOISE SURVEY
LEGEND
● LOCATION OF MEASUREMENTS
○ STATISTICAL ANALYSIS

Fig. 4 - Location of the boundary noise survey at Indusmin Ltd., in Midland, Ontario.

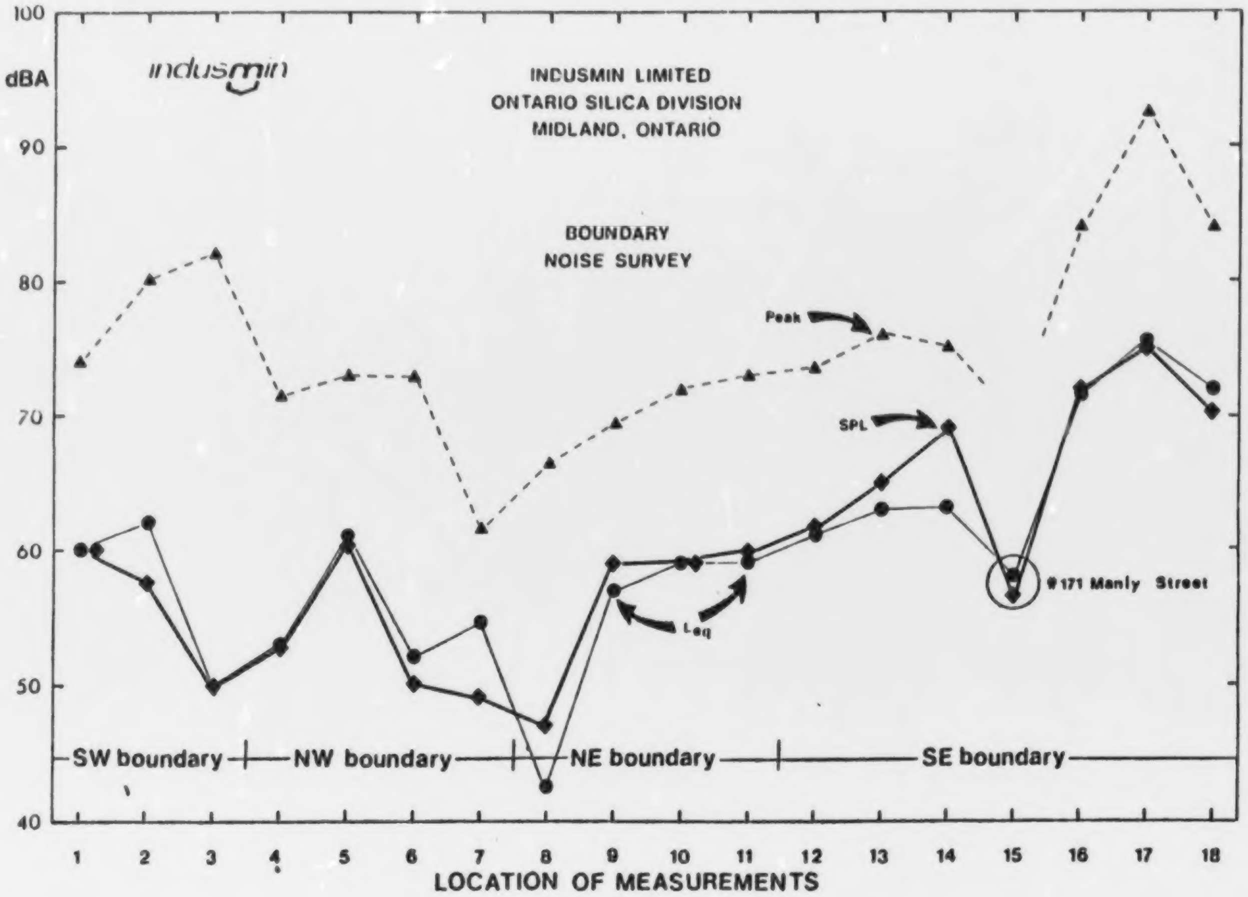


Fig. 5 - Boundary noise survey.

a 'remember' circuit that tells us when the peak is reached. Peak noise is highest on SE and SW boundaries. The cause of this increase is the primary mill, on the southern side of the screening and grinding building. Furthermore, the lowest noise level is on a part of the NW and NE boundaries. At site No. 8, the noise level is lowest because the site is furthest away from the mill. The peak level is relatively high, and this can be explained by taking the noise sources outside the boundary into account.

Frequency analyses were carried out using the Type 1 sound level meter. Table 3 contains the results of these measurements. dBA was estimated from the spectrum level and was then compared with dBA measured. At sites No. 4, 7 and 8 no agreement was found between measured and estimated dBA. This is due to the effect of harbour noise. By the same token, dBA measured and estimated did not agree at sites No. 13 and 14 because of traffic noise. In this Table, the following calculations based on frequency measurements were carried out:

1. dBA evaluation over frequencies of 31.5 Hz to 125 Hz; which have a minor bearing on the final result;
2. dBA evaluation over frequencies of 31.5 Hz to 250 Hz; which have a major bearing on the final result; and
3. dBA evaluation over frequencies of 250 Hz to 8 kHz; which also have a major bearing on the final result.

Noise measurements were taken at site No. 4 on two separate occasions, on the 29th and 30th August, 1983 (Fig. 6). Both occasions yielded similar results. However, the difference between dBA measured and estimated was larger on 29th August. Reasons for this difference have already been discussed. As is evident from Fig. 7, each site has its own peculiarities. If we compare Fig. 7 with Fig. 2, we can see that low frequencies have 'left' the mill and

Table 3 - Frequency spectrum, sound pressure level peak and L_{eq} of the boundary noise survey at Indusmin Ltd.

Site	Frequency (Hz)									dBA								
	31.5	63	125	250	500	1k	2k	4k	8k	Meas'd	Est'd	250 Hz to 8 kHz	31.5 Hz to 25o Hz	31.5 Hz to 125 Hz	SPL(slow)	SPL(fast)	Peak	L_{eq}
+1	76	72	66.5	57	54.5	53	54	49.5	41	60	60	59.3	53.4	52	60	60	74	60
+2	74	72	65.5	58	53	51.5	50	45	38	57.5	57.9	56.9	53.3	51.2	59	58	80	62
+3	70	66.5	60	51.5	44	42	40	37	28	49.5	50.1	48.2	47.4	45.8	52	50	82	50
+4	64	63	65	52	49	41	37	31	27	52.5	52.2	49.1	50.2	49.3	50.5	50.5	71.5	53
*4	64.5	61	68	51	44	40.5	33	34	37	49	53.3	46.9	52.5	52.1				
*5	80	79	71	61	58	52	48	45	38.5	60	61.1	58.8	58.4	57.2	63.5	60	73	61
*6	67	64	60	51	47	43	35	21	27	50	49.9	48.1	46.8	45.1	50	51	73	52
*7	67	64	59	50	43	39	34	28	25	50	47.9	45.4	46	44.3	51.5	51.5	61.5	54.5
*8	62	61	55	50	37	35	29	24	24	49	44.9	42.9	43.8	40.5	46.5	54	66.5	42.5
*9	72	70	64	62	54	53.5	48	43	35	59	58.7	58.2	54.6	49.6	57.5	57.5	69.5	57
*10	74	68.5	61	62	54	53	51	48	39	59	59.1	58.8	54	47.2	59.5	58.5	72	59
*11	72.5	71	62	59	54	54	52	50	46	60	59.6	59.2	52.4	48.7	59.5	58.5	73	59
*12	74.5	70	65.5	59	58	57	53	49	46	61.5	61.8	61.4	53.4	50.7	60.5	60.5	73.5	61
*13	80	74	71	61	60.5	58	52	49	44	67	63.1	62.2	57.4	55.9	63	62.5	76	63
+14	90.5	83	79	73	69	63	57	53	44.5	67	70.8	69.7	67.5	64	63	62.5	75	63
+15	76	72	67	57	47	47	46	45	41	56.5	55.7	53.8	53.7	52.3	-	-	-	58
*15-A	71	70	66.5	59	48	49	45	41	35	56	56.1	54.3	53.8	51.4	-	-	-	57.8
+16	92	85	79	71	69	66.5	62.5	57	50.5	72	72	71.1	66.6	64.8	71.5	71.5	84	71.5
+17	92	88	81.5	75	73	68.5	65	60.5	50.5	75	75	74.2	69.7	67.3	75	75	87.5	75.5
+18	84.5	84	78	71.5	64.5	64	63	59.5	50	70	70.7	69.7	66.5	64	70.5	71	84	72
o19	92	89	85	81.5	80.5	79.5	79	76	68.5	85	85.2	80.1	74.5	70.1	85.5	85.5	98	86.5
o20	84	77	75	70	67	61	61.5	57	49.5	69	69.9	69.5	63.4	59.8	69.2	-	-	69.7
o21	53	55	48	43	35	28.5	25	21.5	23	39.5	39	37.4	36.9	33.8	39	-	-	39.1
SE Corner Manly Gloucester	71	66.5	61	53	47	43	43	40	33	51.5	51.9	50.4	48.4	46.5	-	-	-	53.2

Mean	60.68	58.99	56.33	53.79
Std. Dev.	9.9	10.13	8.3	8.09

Note: + Aug. 29, 1983; * Aug. 30, 1983; o Aug. 31, 1983

▭ Disagreement between dBA and frequency measurements.

{ } Not estimated.

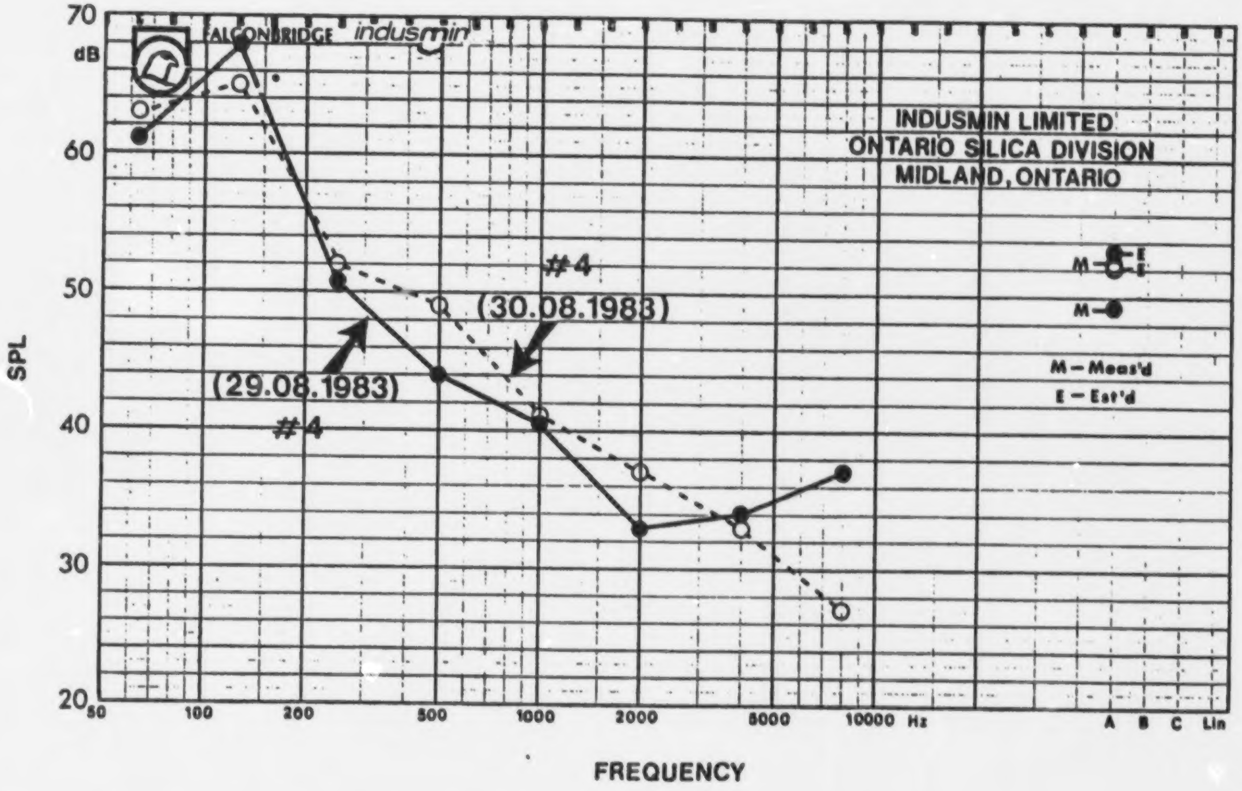


Fig. 6 - Frequency measurements at site No. 4 taken on two separate days, 29th and 30th August, 1983.

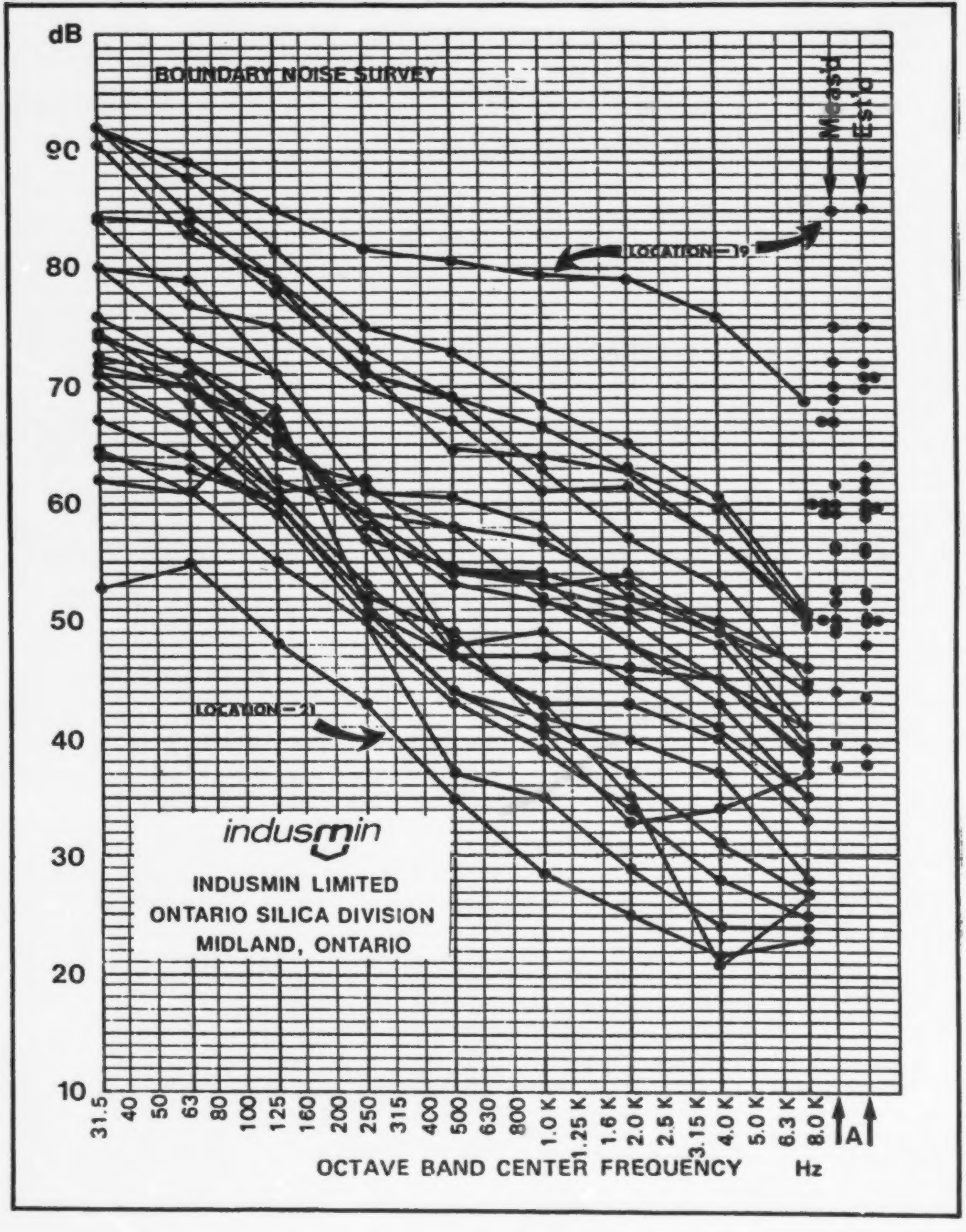


Fig. 7 - Frequency spectrum graph of boundary noise.

have retained their relatively high values. Because of this the frequency spectra in Fig. 6 have a downward slope line.

For a better understanding of the entire problem, a profile of Indusmin Ltd, Manly St., has been constructed in Fig. 8. In this profile, SPL, L_{eq} and distances from the mill are given. To facilitate commenting on this profile, an introduction to the concept of a free field is in order.

A free sound field is defined as a homogeneous, isotropic medium, free of boundaries. In practice it is a field in which the effects of the boundaries are negligible over the region of interest. A free field emits sound uniformly in all directions. The intensity of sound decreases with the square of the distance from the noise source. If the distance is doubled, the sound energy spreads over four times the area and the intensity is one fourth of its original value. This is called the 'inverse square law'.

The sound pressure level, in decibels, is $\mathrm{dB} = 20 \log \frac{P}{2.0 \times 10^{-5}}$

Let the sound pressure be P_1 at distance L_1, and P_2 at distance L_2, then:

$$P_2 = P_1 \frac{L_1}{L_2} \qquad \text{Eq 1}$$

Since sound pressure decreases inversely with distance, therefore,

$$\mathrm{dB}_2 = 20 \log \frac{P_2}{2.0 \times 10^{-5}} = 20 \log \frac{P_1 L_1}{2.0 \times 10^{-5} L_2} \qquad \text{Eq 2}$$

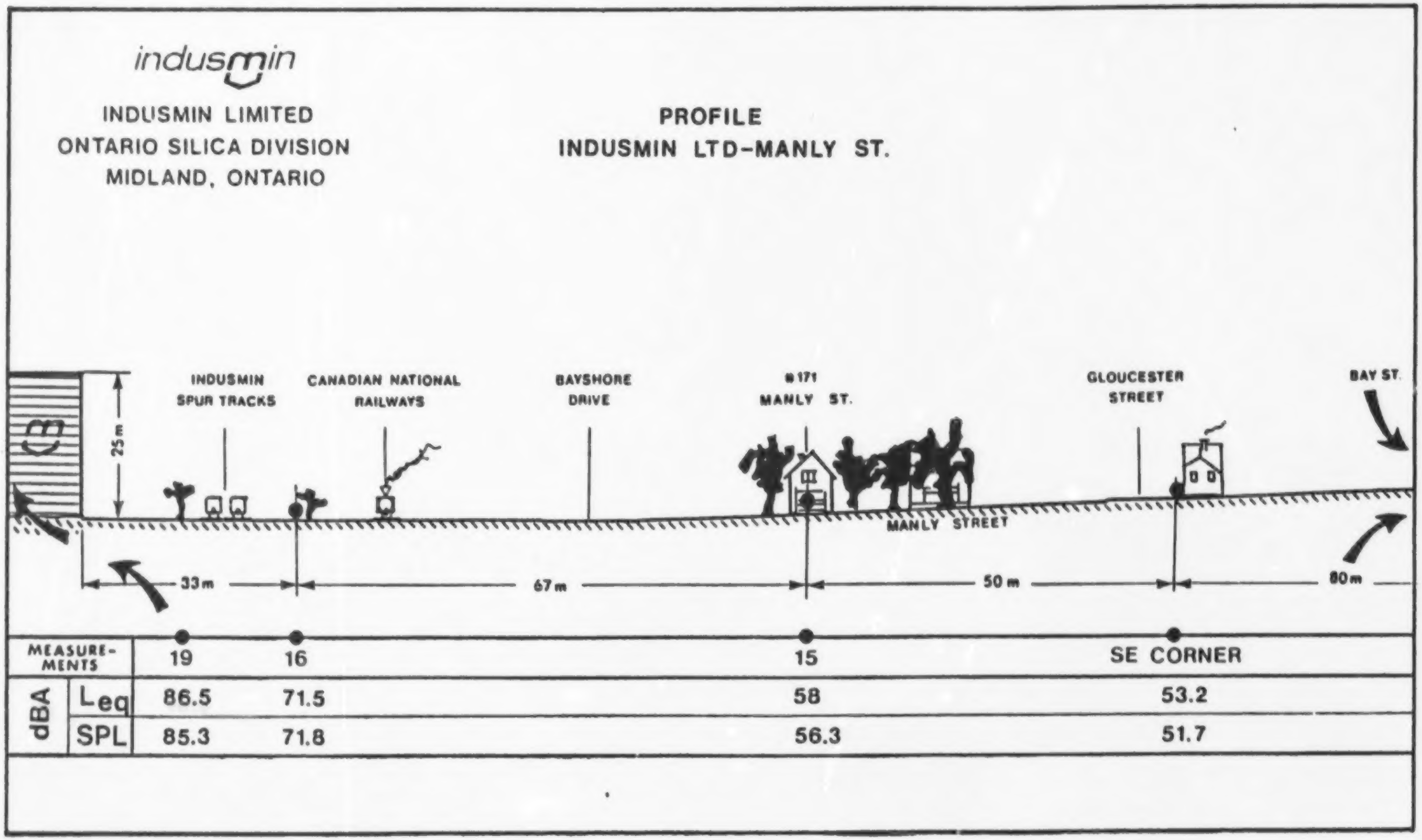
The difference in decibel levels between locations 1 and 2 is:

$$\mathrm{dB}_1 - \mathrm{dB}_2 = 20 \log \frac{P_1}{2.0 \times 10^{-5}} - 20 \log \frac{P_1 L_1}{2.0 \times 10^{-5} L_2} = 20 \log \frac{L_2}{L_1} \qquad \text{Eq 3}$$

The equation can be written as:

$$\mathrm{dB}_2 = \mathrm{dB}_1 - 20 \log \frac{L_2}{L_1}$$

If the distance from the microphone to the noise source is doubled, that is, if $L_2 = 2L_1$, then $-20 \log 2 = -6$ dB. This means that the sound pressure level


indusmin
INDUSMIN LIMITED
ONTARIO SILICA DIVISION
MIDLAND, ONTARIO
PROFILE
INDUSMIN LTD-MANLY ST.
25 m
INDUSMIN SPUR TRACKS
CANADIAN NATIONAL RAILWAYS
BAYSHORE DRIVE
#171 MANLY ST.
GLOUCESTER STREET
BAY ST.
MANLY STREET
33 m
67 m
50 m
80 m

MEASUREMENTS		19	16	15	SE CORNER
dBA	Leq	86.5	71.5	58	53.2
	SPL	85.3	71.8	56.3	51.7

Fig. 8 - Profile of Indusmin Ltd., Manly Street.

decreases 6 dB each time the distance from the noise source is doubled.

If we now look at Fig. 7, we can see that the decrease in noise is greater than that predicted by the inverse square law. The first decrease in noise is 15 dBA (calculated according to Leq); the second decrease is 13.5 dBA; and the third decrease is 4.8 dBA. This looks good for Indusmin Ltd., because at a distance of 150 m, on Gloucester Street, the total decrease in noise is 33.3 dBA. These measurements should be repeated often so that a mean value can be determined.

ENVIRONMENTAL NOISE SURVEY

In conjunction with these measurements, a statistical analysis was used for three of the measurements, which are related to environmental noise (Fig. 4):

1. Because the harbour is a tourist area, noise at site No. 2 (location of measurement) was monitored during the first shift, from 08:00 to 16:00 hours (Fig. 9).
2. At site No. 16 (location of measurement), noise which penetrates the surrounding populated area was monitored during the second shift, from 18:00 to 06:00 hours the following day (Fig. 9).
3. At site No. 15-A, 171 Manly Street, at a bedroom window facing Indusmin Ltd., for an entire night (Fig. 10).

From the histogram in Fig. 11 one can determine the sound level that is exceeded (a) 10% of the time; (b) 50% of the time; and (c) 90% of the time. Refer to Fig. 11 and read the following from the histogram using the probability-of-exceedance curve.

At site No. 2 (location of measurement) the results are:

a) $L_{10} \approx 60.5$ dBA, exceeded 10% of the time;

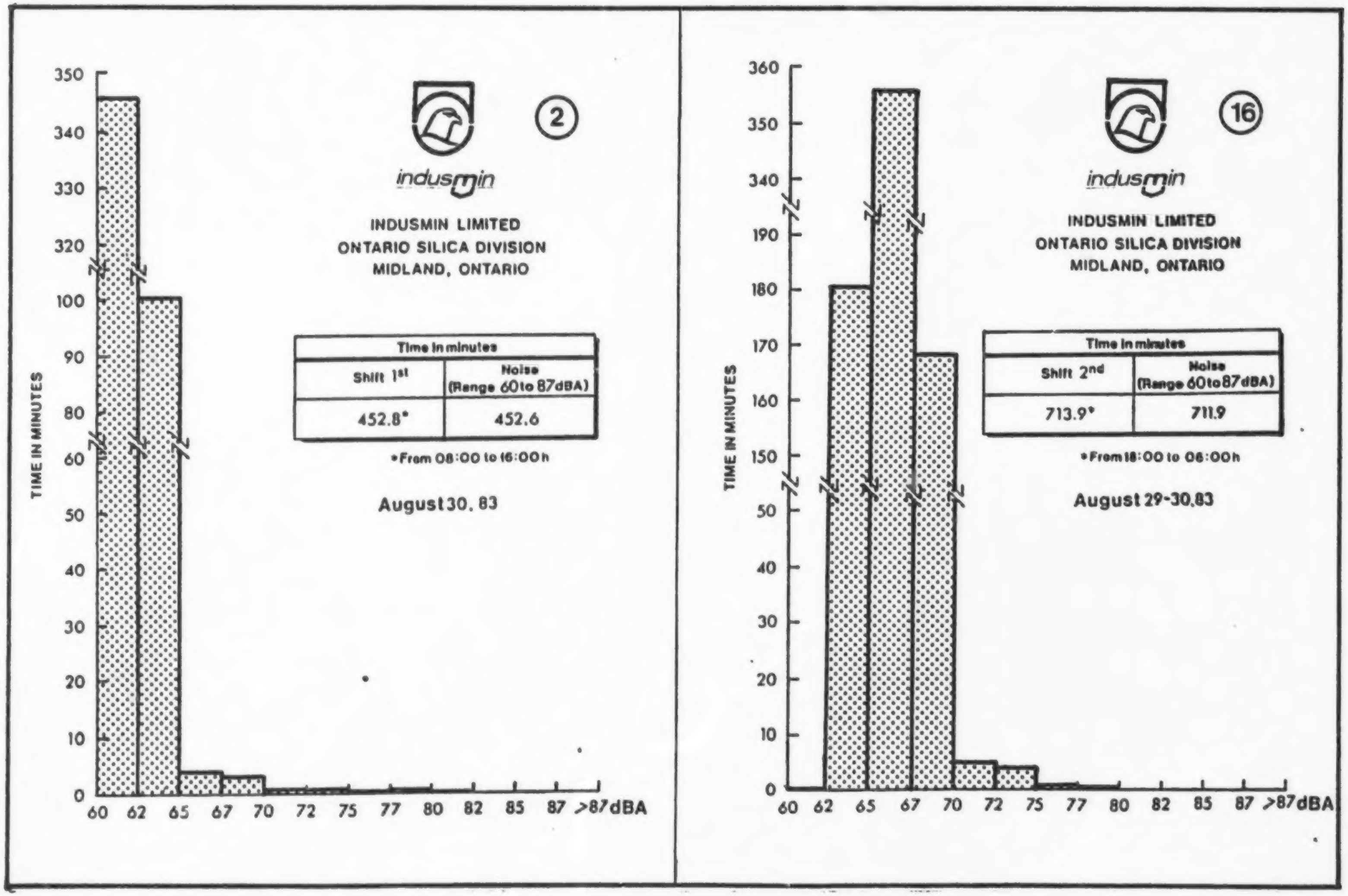
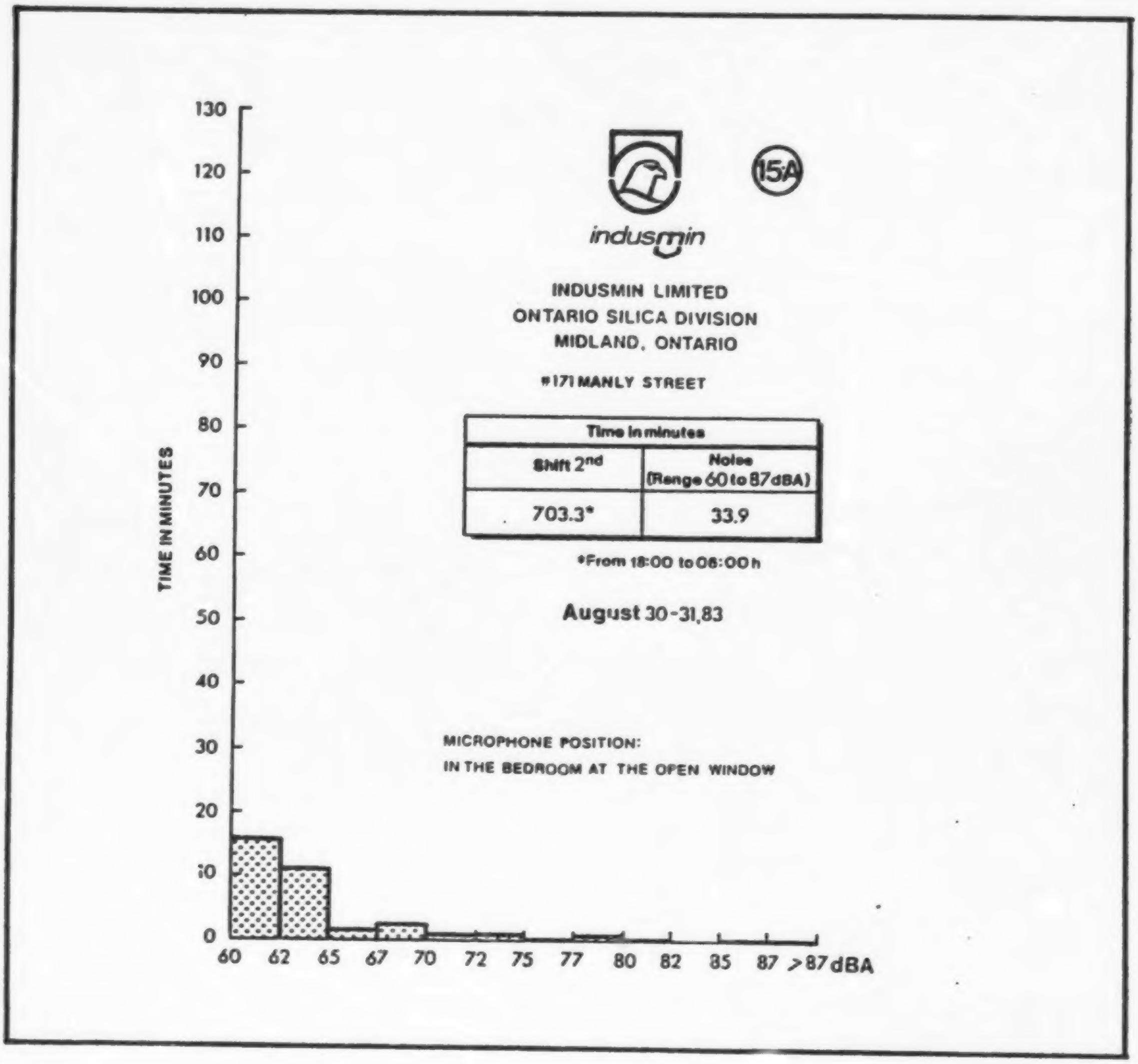


Fig. 9 - Histogram of plant noise at a particular property boundary (see Fig. 4).



INDUSMIN LIMITED
ONTARIO SILICA DIVISION
MIDLAND, ONTARIO

#171 MANLY STREET

Time in minutes	
Shift 2nd	Noise (Range 60 to 87 dBA)
703.3*	33.9

*From 18:00 to 06:00 h

August 30-31,83

MICROPHONE POSITION:
IN THE BEDROOM AT THE OPEN WINDOW

Fig. 10 - Statistical analysis of noise in a bedroom at 171 Manly Street during an entire night (see Fig. 4).

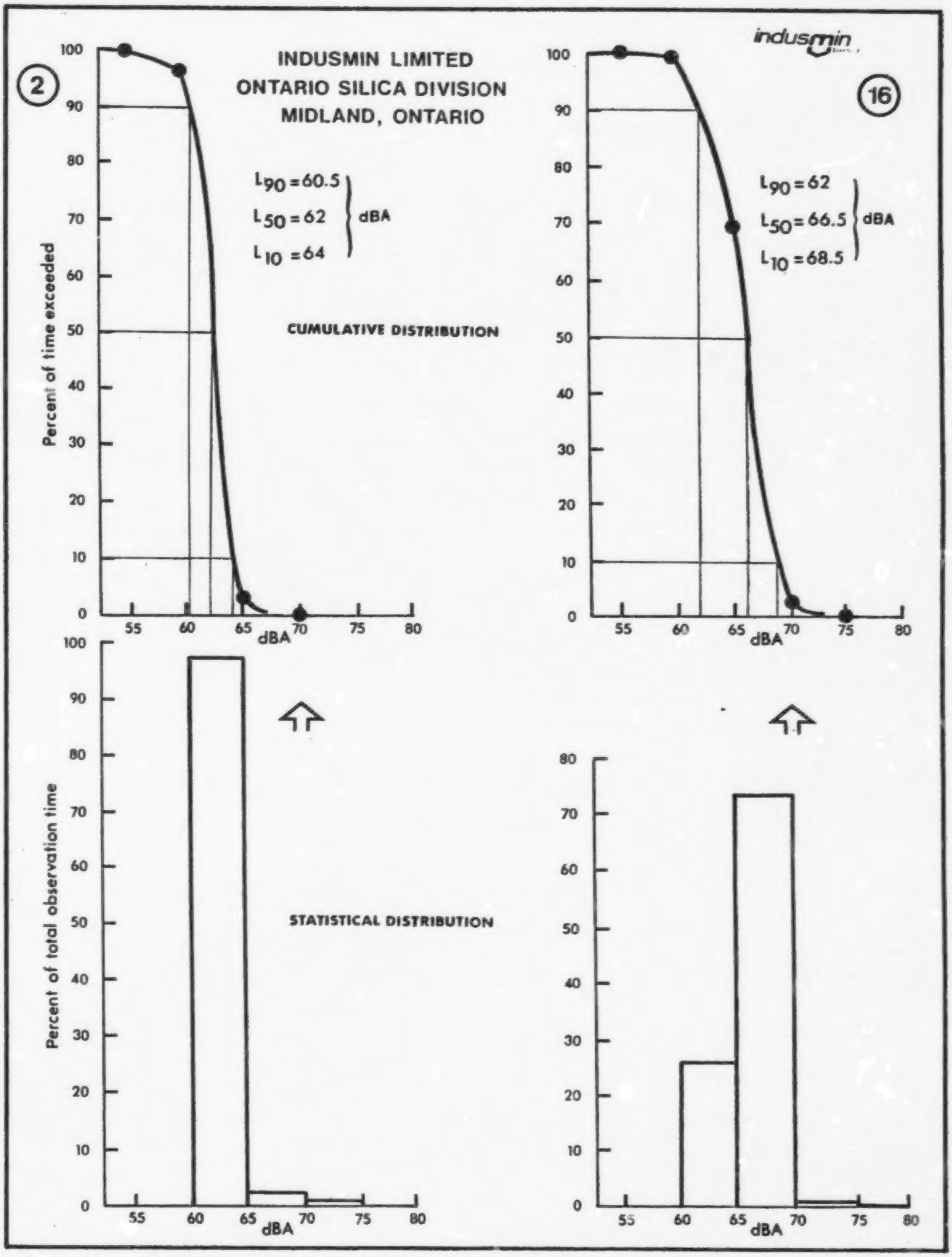


Fig. 11 - Histogram and cumulative distribution function, and data tabulated using the probability of exceedance curve.

b) $L_{50} \approx 62$ dBA, exceeded 50% of the time;

c) $L_{90} \approx 90$ dBA, exceeded 90% of the time.

From the bar-graph portion of the histogram the amplitude band 60 to 65 dBA was recorded for 96.5% of the observation time.

At site No. 16 (location of measurement) the results are:

a) $L_{10} \approx 62$ dBA, exceeded 10% of the time;

b) $L_{50} \approx 66.5$ dBA, exceeded 50% of the time;

c) $L_{90} \approx 68.5$ dBA, exceeded 90% of the time.

From the bar-graph portion of the histogram the amplitude band 65 to 70 dBA was recorded for 73% of observation time.

Because both measurements were carried out indoors to find the environmental sound level, 5 dBA should be deducted from the 50th percentile sound level (L_{50}), or the equivalent sound level (L_{eq}) (5). This was done here:

Site No.	L_{50}	dBA Correction Factor	L_{50} (Est'd)
2	62	-5	57
16	66.5	-5	61.5
		Mean	59.25

This result is good because, over a radius of 100 m, it provides an almost equal value for sound pressure level and equivalent sound level (L_{eq}) at 171 Manly Street. In August 1978, the Ontario Ministry of the Environment introduced permissible outdoor sound level limits (Table 4). From Table 4-A-B-C it is clear that noise levels around Indusmin's plant are high. Noise measurements carried out at the residence, 171 Manly Street, have not provided complete results because the instrument used had a base line of 60 dBA, but even these small indications of measurements in Fig. 10 prove that the noise level will be very high, between 40 dBA and 60 dBA.

Table 4-A - Indoor sound level limits (5)

Type of Space	Equivalent Sound Level (L_{eq}), dBA
Bedrooms, sleeping quarters, hospitals, etc. (Time period 23:00 to 07:00 hours)	40
Living rooms, hotels, motels, etc. (Time period 07:00 to 23:00 hours)	45
Individual or semi-private offices, small conference rooms, reading rooms, classrooms, etc. (Time period 07:00 to 23:00 hours)	45
General offices, reception areas, retail shops and stores, etc. (Time period 07:00 to 23:00 hours)	50

Table 4-B - Sound level limits for outdoor recreational areas (07:00 to 23:00 hours) (5)

Sound Descriptor for the Entire Period	Sound Level Limit. dBA
L_{50}	52
L_{eq}	55

Table 4-C - Sound level limits for outdoor areas (23:00 to 07:00 hours) (5)

Sound Descriptor for the Entire Period	Sound Level Limit dBA
L_{50}	47
L_{eq}	50

OFFICE NOISE MEASUREMENTS

Noise measurements in octave band were taken outside and inside the office, 30 cm away from its window (Fig. 4 and 12). These measurements were repeated many times to arrive at the best possible results. They are crucial in showing us possible ways to provide protection against plant noise and protection for surrounding populated areas. For this experiment a safety office whose window faces the plant was chosen. Results have shown that transmission loss (TL) at the 'double window' is around 30 dBA, which agrees with results offered in the literature.

Each band pressure level was plotted on the Noise Criteria (NC) curves and Preferred Noise Criteria (PNC) curves of Fig. 13. The point of highest penetration determines the rating in each case. We find that the spectrum penetrates the NC-30 curve at 250 Hz and exceeds it by about 2.5 dB. This yields an NC rating of NC-45.5. Similarly, we find that the spectrum lands on the PNC-35 at 63 Hz. Thus, the PNC rating is PNC-35. Recommended noise criteria ranges for steady background noise in certain indoor areas are listed in Table 5.

Table 5 - Recommended noise criteria ranges for steady indoor background noise (8)

	NC Curve	PNC Curve
1. Sleeping quarters	25-35	25-40
2. Living quarters	35-45	30-40
3. Office or classroom	30-35	30-40
4. Recording studio	10-20	10-20
5. Retail store or restaurant	35-50	35-45
6. Engineering laboratory	40-45	40-50
7. Computer areas	45-60	45-55

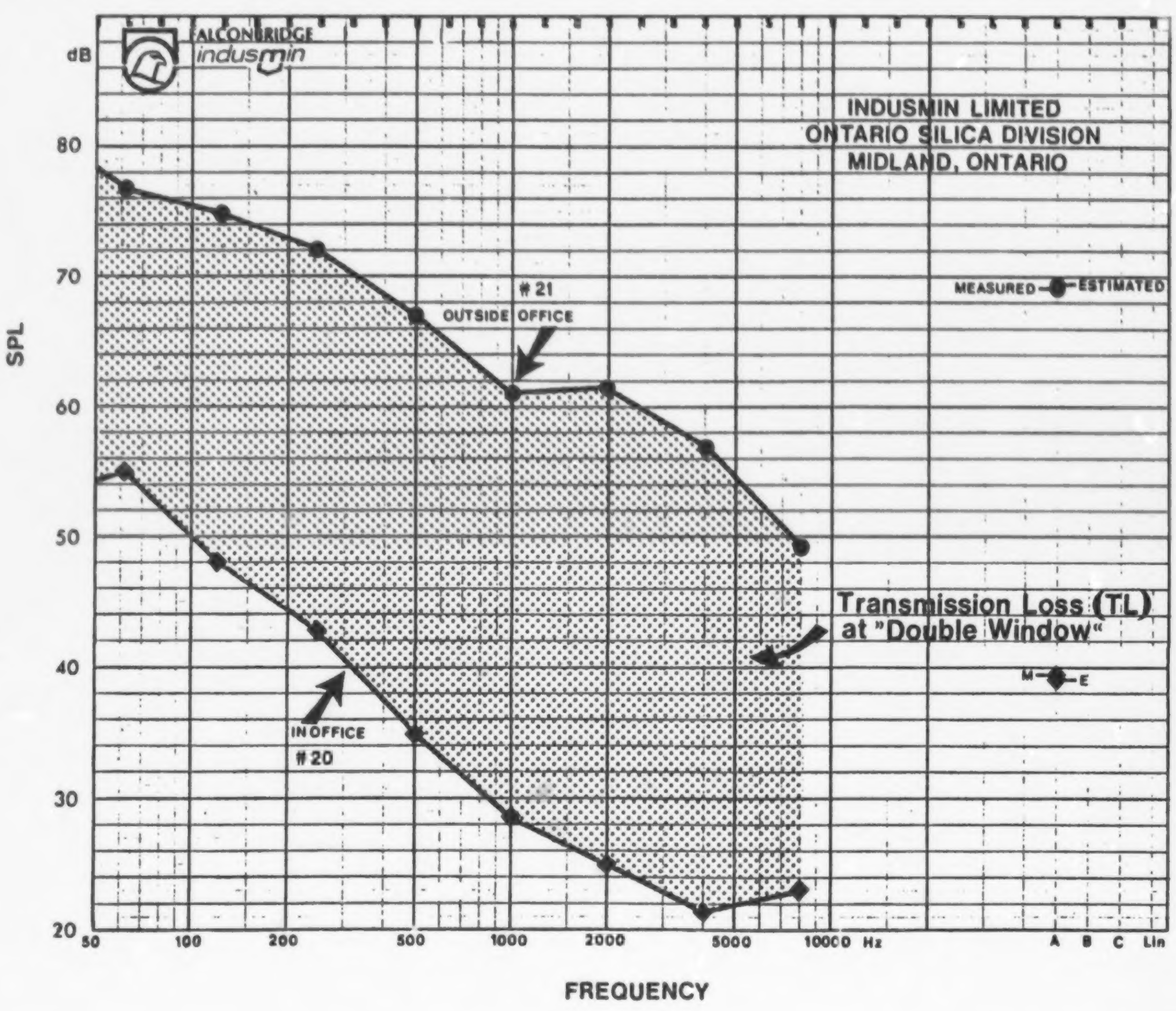


Fig. 12 - Noise measurements outside and inside the office at Indusmin Ltd.

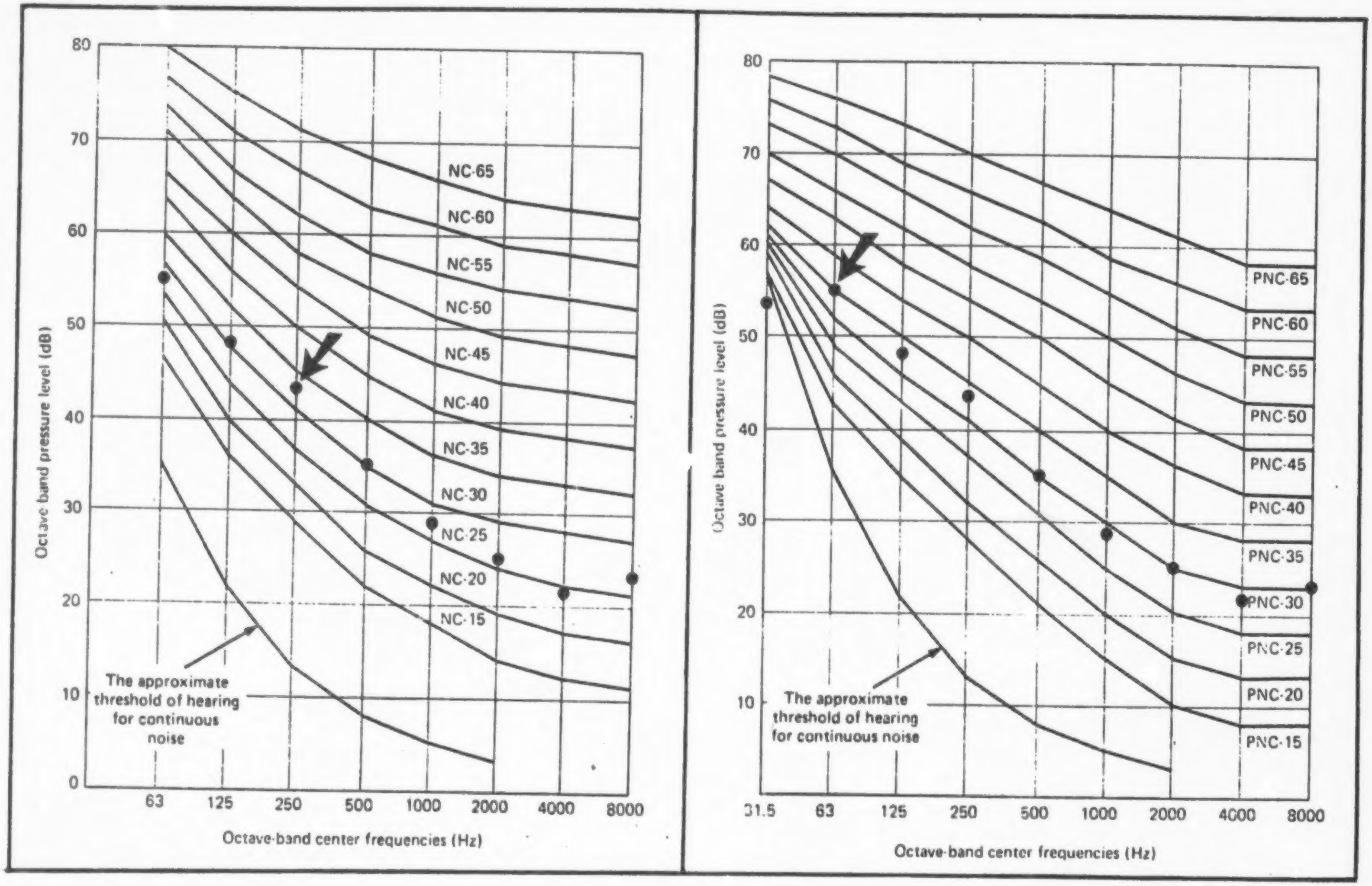


Fig. 13 - Methods of rating the background noise level in a room: use 1957 Noise Criteria (NC) (6,7), and 1971 Preferred Noise Criteria (PNC) curves (7).

Judging from Table 5 it is clear in which category the background noise in Indusmin's safety office belongs.

SOLUTION TO PROBLEMS OF ENVIRONMENTAL NOISE AT INDUSMIN LTD.

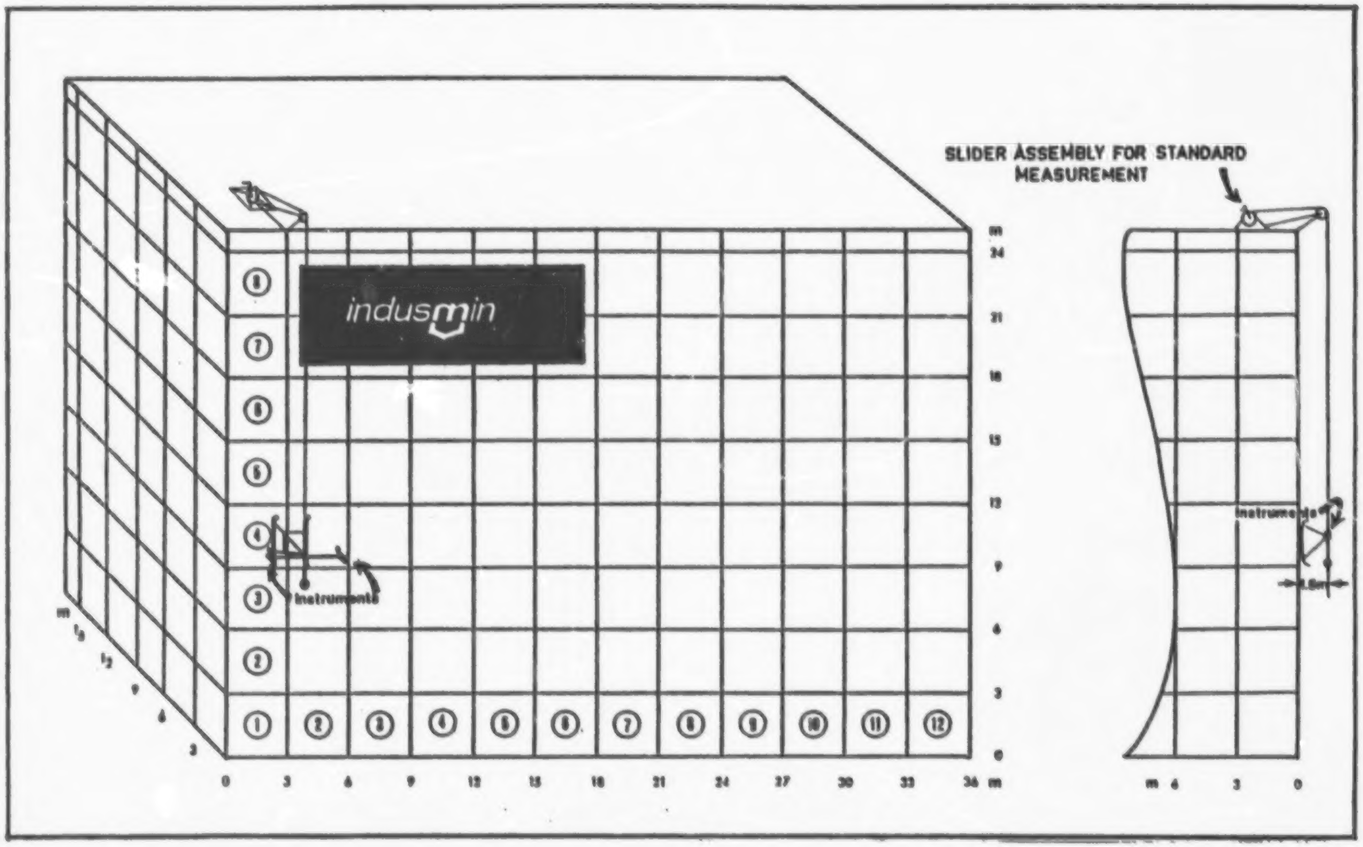
Analyses show that the main source of noise at Indusmin Ltd. is the primary mill room (Fig. 2, Table 1). Moreover, many machines produce a high noise level and insulating them would be impossible because of the limited amount of space. It would be necessary, therefore, to insulate the entire space or room. Decreasing noise to a satisfactory level could be done by implementing the design proposed in Fig. 14.

The mill is 36 m long, 16 m wide and 25 m high. Its external walls have been divided into squares of 3 m, so that measurements from base to roof of the building could be completed in two sections of 3 m in 8 hours. At that rate, measuring the entire frontal wall would take 6 days. Two dB-301 Metrologger instruments would be used. They would be placed 1.5 m from the walls. This distance is arrived at by taking into account a 250 Hz wavelength at room temperature (21.1°C) and the velocity of sound in air (344 m/s).

$$\lambda = \frac{C}{f} = \frac{344}{250} = 1.376 \text{ m at } 250 \text{ Hz}$$

where, λ = wavelength; C = velocity of propagation; f = frequency.

For a frequency of 125 Hz, this distance would be 2.752. All frequencies between 250 Hz and 8 kHz would register in the A-network, which is sufficient for our design. Measuring two sections of the outer walls (1-2) would take an hour, after which the slider assembly for standard measurement could move on to the next two sections (2-2), etc. Based on these measurements, a noise contour map for the outer walls of the grinding and screening plant could be drawn. This map would show precisely at which spots thicker or thinner insulation is required and the end result would be more efficient


SLIDER ASSEMBLY FOR STANDARD MEASUREMENT
indusmin
Instruments
Instruments
1.5m
①
②
③
④
⑤
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0
3
6
9
12
15
18
21
24
27
30
33
36 m
m
24
21
18
15
12
9
6
3
0
m 6
3
0

Fig. 14 - Design for decreasing noise at screening and grinding building.

attenuation and less cost. Along with these measurements, eight db-301 Metrologgers would be used to measure noise on the inner walls of the room during a full shift. In this way an adequate picture of both sides of the walls could be formed. The computer program necessary for this method of measuring is already possessed by the Elliot Lake Laboratory. While this project of measuring noise is taking place, all insulation work could be done simultaneously.

Also, along with these measurements, two more measurements of environmental noise will be performed at 171 Manly Street and Gloucester Street, outside the Indusmin boundary. These would confirm either positive or negative results. All evaluations would be made on the spot. The Elliot Lake Laboratory has the necessary computer program for this as well. All measurements would be done with 12 instruments and it would take at least 6 days. Work would be done when the plant is operating nights from 22:00 to 06:00 hours to escape the effects of traffic noise.

There are other methods for this type of measurement, but they require more expensive instruments and more time.

CONCLUSION

The analysis of this case demonstrates that some noise at Indusmin Ltd. can be reduced successfully. Man lives dependent on and surrounded by industries, but industries, nevertheless, should make concessions where they are needed. Therefore, the following is proposed:

1. Indusmin Ltd. should consider implementing the measures described here, or similar ones, as long as they contain the following:
   - integrated measurement of noise inside and around the plant;
   - insulating their plant with either more or less expensive materials,

thus making attenuation efficient while keeping costs at a reasonable level.

2. Indusmin Ltd. should consider enlarging the green belt around its boundaries.
3. City Hall should create a green belt between Indusmin Ltd. and Gloucester Street and ban any residential buildings from it.
4. The key to a solution lies in a close rapport and cooperation between Indusmin Ltd. and City Hall.

Indusmin Ltd., City Hall and the Ontario Government should take into account the following facts:

- Ontario presently needs more silica than it is producing, and an increase in silica production capacity would decrease the amount Canada now imports.
- It is reasonable to expect an increase in production capacity at Midland to take effect in the near future.
- The Midland location is a favourite of Ontario industries, on which thousands of workers depend.

There is no reason why this problem cannot be solved; a solution would only improve the Canadian quality of life.

ACKNOWLEDGEMENTS

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Measurements were performed in accordance with M.A.P.A.O.

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